

REPORT
OF THE
County Medical Officer of Health

For the Year ending December 31st, 1939.

*To the Public Health and Housing Committee of the
County Council of the County Palatine of Chester
and to the Members of the County Council.*

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INTRODUCTION

*To the Chairman and Members of the Public Health
Committee of the Cheshire County Council.*

Mr. Chairman, Ladies and Gentlemen,

I have the honour to present to you my report on the health and sanitary circumstances for the year 1939.

The lateness of the publication of this report is to be regretted but is mainly due to the fact that the Registrar General's returns were not available until October, 1940.

Owing to the constantly increasing pressure on Public Health Departments of Air Raid Precautions, Emergency Hospitals, Civil Nursing Reserve, Hospital Casualty Bureau, and Evacuation work, the Ministry of Health has eliminated the more complex forms of statistical return formerly called for and included in Annual Reports, and they have further intimated, both on this account and to ensure economy in paper, that the scope of 1939 reports shall be restricted as much as possible. For the sake of continuity, however, the essential statistical matter has been included as usual. The Ministry desires that comment be made on exceptional public health measures due to the war, and attention is accordingly directed to pp. 57-60.

The vital statistics may again be regarded as very satisfactory. The infantile mortality has established a new low record of 46.3 deaths per 1,000 live births, and there is a gratifying drop in the maternal mortality from 4.44 to 2.47. The tuberculosis death rate has also slightly declined, from .49 to .48 per 1,000 population, despite the fact that there was a slight increase over the country as a whole.

The abnormally low expenditure during this year on works of water supply, sewerage and sewage disposal is attributable partly to pressure of work in connection with civil defence. After the outbreak of war a restriction of expenditure on public works was imposed on local authorities by the Ministry of Health. Applications for loans in respect of such works are being sanctioned only in instances where the public health is seriously affected, for services essential to work of national importance, or in connection with military requirements or civil evacuation.

Your obedient servant,

IAN C. MACKAY, M.B., Ch.B., D.P.H.,
County Medical Officer.

20th November, 1940.

Staff of the Public Health Department

County Medical Officer of Health and Chief School Medical Officer.	... Ian Campbell Mackay, M.B., Ch.B., D.P.H.
Deputy County Medical Officer of Health	... Arnold Brown, M.B., Ch.B., D.P.H.
Lady Assistant Medical Officer	... Jean R. Shaw, M.B., Ch.B., D.P.H.
District Tuberculosis Officers	... A. Fleming, M.B., Ch.B., D.P.H. L. I. Henzell, M.D., B.Sc., D.P.H. E. Smith, M.D., Ch.B., D.P.H. D. W. Tough, M.B., Ch.B., D.P.H.
Assistant School Medical Officers	... Robert J. Clarke, M.B., Ch.B., D.P.H. Jennie Craig, M.B., Ch.B., D.P.H. W. J. McIvor, M.B., Ch.B., D.P.H. Mary A. Thomas, M.B., Ch.B., D.P.H. Gladys Wilkinson, M.R.C.S., L.R.C.P. J. S. B. Forde, M.R.C.S., L.R.C.P.
County Analyst	... S. Ernest Melling, F.I.C.
School Dental Surgeons	... H. R. Parry, L.D.S. (Senior Dentist). J. L. Dickson, L.D.S. ... G. H. V. Froggatt, M.R.C.S., L.R.C.P., J. M. Gibbons, L.D.S. [L.D.S. E. L. Hampson (temporary) B.D.S. A. F. Hely, L.D.S. (with H.M. Forces). L. H. Hilton, L.D.S. H. Jackson, L.D.S. Fred L. Jones, L.D.S. J. S. Loney (temporary) B.D.S. E. S. Poulter, L.D.S. H. W. S. Sheasby, L.D.S. E. Johnson Taylor, L.D.S.
School Oculists (Part-time)	... W. Dunlop Hamilton, M.B., B.Ch., D.O.M.S. C. Jacobs, M.D., M.B., B.S.
County Sanitary Officer	... F. Humphries, A.R.S.I.
Assistant County Sanitary Inspector	... A. H. Moseley, M.R.S.I.
Milk Samplers	L. Broughton (temporary). ... E. Farrall. T. T. Hares. W. Morris. T. Oakes (with H.M. Forces). T. L. Wood

CONSULTANTS FOR PUERPERAL CASES.

CHESTER.

- J. Gardiner Wigley, F.R.C.S., 40, King Street, Chester.
(Tel. Chester 938).
A. W. Holgate, F.R.C.S., 24, Curzon Park, Chester.
(Tel. Chester 628).

LIVERPOOL.

- Percy Malpas, F.R.C.S., 31, Rodney Street, Liverpool.
(Tel. Royal 4670).
Gateacre Hall, Liverpool.
(Tel. Gateacre 1810).
A. Leyland Robinson, F.R.C.S., 57, Rodney St., L'pool.
(Tel. Royal 8061).

MANCHESTER.

- W. R. Addis, F.C.O.G., 2, St. John Street, Manchester, 3.
(Tel. Blackfriars 0435).
Westbourne, Wilmslow Road, Manchester 14.
(Tel. Rusholme 1907).
C. Philip Brentnall, M.D., 14, St. John Street, Manchester.
(Tel. Blackfriars 9984).
"Riversdale," Fielden Park, West Didsbury.
(Tel. Didsbury 3762).
Gordon Fitzgerald, M.D., Northern Assurance Buildings, Albert Square
Manchester.
(Tel. Blackfriars 6458).
Woodstock, West Didsbury, Manchester.
(Tel. Didsbury 3350).
E. A. Gerrard, M.D., 26, St. John Street, Manchester 3.
(Tel. Blackfriars 0079).
Hillbrow, West Didsbury, Manchester, 18.
(Tel. Didsbury 2681).
F. H. Lacey, M.D., 16, St. John Street, Manchester.
(Tel. Blackfriars 1500).
Thoresby, Ballbrook Avenue, West Didsbury, Manchester.
(Tel. Didsbury 3092).
J. W. A. Hunter, M.D., 12, St. John Street, Manchester.
(Tel. Blackfriars 3287).
20, Rusholme Gardens, Whitworth Park, Manchester
(Tel. Rusholme 2020).
C. E. B. Rickards, M.B., Ch.B., M.C.O.G., 14, St. John St., M'chester
(Tel. Blackfriars 4179).
"Lawnhurst," Wilmslow Road, Manchester 20.
(Tel. Didsbury 1812).
R. Newton, M.D., M.C.O.G., 11, St. John Street, Manchester 3.
(Tel. Blackfriars 2198).
Glen May, Brook Road, Fallowfield, Manchester 14.
(Tel. Rusholme 4472).

STALYBRIDGE.

- W. E. C. Thomas, M.B., Ch.B., M.C.O.G., Bank House, Stalybridge
(Tel. Stalybridge 2481).

STOKE.

- T. H. Richmond, F.R.C.S., 3, The Villas, London Road, Stoke-on-Trent.
(Tel. Hanley 48341).

CLATTERBRIDGE (COUNTY) GENERAL HOSPITAL

Medical Superintendent

D. Wilkie, M.D., F.R.C.S., Ed. & Eng.

Deputy Medical Superintendent

Susan Beatty, M.B., Ch.B., B.A.O.

RESIDENT MEDICAL OFFICERS

J. A. Bentham, M.B., Ch.B., D.P.H., D.C.O.G.

J. Overton, M.B., Ch.B.

L. Boyars, M.B., Ch.B.

NURSING STAFF, ETC.

Matron Mrs. Holbert, S.R.N., S.C.M.

Deputy Matron and Sister
Tutor Miss Osborne, S.R.N., S.C.M.

Clerk and Steward Miss Tilston

Lady Almoner Miss Zambuhl

CONSULTING STAFF

SURGEON—C. A. Wells, F.R.C.S. (Eng.)

GYNAECOLOGIST—Morris Datnow, M.D., F.R.C.S. (Ed.)

ORTHOPAEDIC SURGEON—T. Hartley Martin, M.B., Ch.B.

EYE SURGEON—W. Dunlop Hamilton, M.B., D.O.M.S.

EAR, NOSE & THROAT—P. Garson, F.R.C.S. (Ed.), D.L.O.

DENTAL SURGEON—C. E. Wilkinson, L.D.S.

PATHOLOGIST—J. Morrison Ritchie, M.A., M.B., Ch.B., D.P.H.

DISTRICT TUBERCULOSIS OFFICER—D. W. Tough, M.B., Ch.B.

RADIOLOGIST—R. F. Innes, M.B., D.R.M.E.

ANAESTHETIST—John Halton, M.B.

HEALTH VISITORS (41).

For districts in italics, M. & C.W. work is not done; for districts in small capitals, M. & C.W. and School Medical work is not done; for districts in italic capitals, School Medical work is not done. Special evacuation Centres and Clinics are not included ; for these see, Section VI.

	CIVIL PARISHES	CENTRES, CLINICS & DISPENSARIES	
DISTRICT No. 1. Elizabeth Owen, 8, Market Street, Hoylake (Tel. Hoylake 2322))	Caldy Frankby Grange Greasby Hoylake-cum-West Kirby	Welfare Centre, 8, Market Street, Hoylake Thurs. p.m. (Tel. Hoylake 2322) School Clinic, 8, Market Street, Hoylake Mon.—Fri. a.m. (Tel. Hoylake 2322) Welfare Centre, Methodist Church Hall, Greasby Alt. Tues. p.m.	
DISTRICT No. 2a C. Turcan, 4, Alpha Drive, Rock Ferry, Birkenhead (Tel. Rock Ferry 1179)	Bebington-cum-Bromborough Brimstage Capenhurst Eastham Great Saughall Ledsham Little Saughall Poulton-cum-Spital Woodbank	School Clinic, St. Mark's Parish Rooms, New Mon.—Fri. p.m. Tub. Disp., 42, Hamilton Square, Birkenhead Tues. p.m. (Tel. Birkenhead 1179)	
DISTRICT No. 2b K. E. Carr, 292, Menlove Avenue, Woolton, Liverpool (Tel. Liv. Gateacre 2387)	Barnston Burton Gayton Heswall Irby	Ness Neston-cum-Parkgate Pensby Thurstaston Willaston	Welfare Centre, Wesleyan Sunday School, Heswall Alt. Mon. p.m. Welfare Centre, Wesleyan Sunday School, Neston Thurs. p.m. (v. No. 3b) School Clinic, Wesleyan Sunday School, Neston Wed. p.m. Tub. Disp., 42, Hamilton Square, Birkenhead Fri. p.m. (Tel. Birkenhead 1179)
DISTRICT No. 3a M. Lunt, 4, Calvely Ave. Eastham, Wirral	Backford Caughall Childer Thornton Chorlton Croughton Ellesmere Port Gt. Stanney Gt. Sutton Hooton	Ince Lea Little Stanney Little Sutton Mollington Moston Picton Stoke Wervin	School Clinic, York Road, Ellesmere Port Mon.—Fri. a.m. (v. No. 3b) (Tel. E. Port 2387)
DISTRICT No. 3b A. Smith, 69, Bouverie Street, Chester (Tel. Chester 2716)	Aldford Buerton Chester Castle Churton Heath Claverton Dodleston Eaton Eccleston	Huntington Kinnerton Lea Newbold Marlston Poulton Pulford Rowton Saighton	School Clinic, York Road, Ellesmere Port Mon.—Fri. a.m. (v. No. 3a) (Tel. E. Port 2387) School Clinic, Wesleyan Sunday School, Chester 2nd Wed. p.m. (v. No. 2b)
DISTRICT No. 4 H. Marston, 43, Victoria Road, Chester (Tel. Chester 2986)	Bache Barrow Bridge Trafford Christleton Dunham Elton Great Boughton Guilden Sutton	Hapsford Hoole U.D. Hoole Village Littleton Mickle Trafford Thornton-le-Moors Upton Wimbolds Trafford	Welfare Centre, 55, Hoole Road, Chester Tues. p.m., 1st Thurs. p.m. School Clinic, 55, Hoole Road, Chester Mon., Tues., Thurs., Fri. a.m. Ante-Natal Clinic, 55, Hoole Road, Chester 2nd Thurs. p.m. (v. No. 6)
DISTRICT No. 5 A. Dobie, Heathfield House, Vicars Cross, Chester (Tel. Christleton 101)	Ashton Beeston Bruen Stapleford Burton-by-Tarvin Clotton Hoofield Cotton Abbotts Cotton Edmunds Delamere Duddon Eaton Foulk Stapleford Hatton Hockenhull	Horton-cum-Peel Huxley Iddinshall Kelsall Mouldsworth Pryor's Heys Tarporey Tarvin Tilstone Fearnall Tiverton Utkinton Waverton Willington	Welfare Centre, Reading Room, Utkinton Alt. Thurs. p.m. Welfare Centre, Parish Hall, Tarporey Alt. Thurs. p.m. Welfare Centre, Jubilee Hall, Malpas Alt. Mon. p.m. (v. No. 6)

	CIVIL PARISHES	CENTRES, CLINICS & DISPENSARIES
DISTRICT No. 6 D. Toft, The Manor, Mickle Trafford, Nr. Chester (Tel. Mickle Trafford 17)	Agden Aldersey Barton Bickerton Bickley Bradley Broxton Burwardsley Caldecott Carden Chidlow Chorlton Chowley Church Shocklach Churton-by-Al'fd Ch'rton-by-F'don Clutton Coddington Crewe Cuddington Duckington Edge Edgerley Egerton Farndon Golborne Bellow	Golborne David Grafton Hampton Handley Harthill Horton Kings Marsh Larkton Macefen Malpas Marbury Newton-by-Malpas Newton-by-Tattenhall Norbury Oldcastle Overton Shocklach Oviatt Stockton Stretton Tattenhall Threapwood Tilston-by-Malpas Tushingham Wigland Wirswall Wychough
		Welfare Centre, Jubilee Hall, Malpas <i>Alt. Mon. p.m. (v. No. 6)</i> Tuberculosis Dispensary, 2, King's Buildings, Chester <i>Wed. a.m. (Tel. Chester 2874)</i> Ante-Natal Clinic, 55, Hoole Road, Chester <i>2nd Thurs. p.m. (v. No. 4)</i>
DISTRICT No. 7 J. Charnley, 196, Ditchfield Road, Hough Green, Widnes E. Riley, 17, Cornwall Avenue, Runcorn A. A. Rimmer, 20, Daisy Mount, Maghull, Liverpool	Runcorn U.D. (Mersey and Halton Wards) Runcorn U.D. (Weston and Heath Wards) Runcorn U.D. (Bridgewater, Central and Newtown Wards)	Welfare Centre, 29, High Street, Runcorn <i>Tues. and Wed. p.m. (Tel. Runcorn 2449)</i> School Clinic, 29, High Street, Runcorn <i>Tues. and Wed. a.m. (Tel. Runcorn 2449)</i> <i>Mon., Thurs., Fri. p.m.</i> Ante-Natal Clinic, 29, High Street, Runcorn <i>Thurs. a.m. (Tel. Runcorn 2449)</i>
DISTRICT No. 8. B. Bird, The Bungalow, Chester Road, Sutton Weaver, Warrington	Alvanley Aston Frodsham Halton	Helsby Kingsley Manley Norley Sutton
		School Clinic, Trinity Church House, <i>Fri. p.m. Frodsham</i> Tuberculosis Disp., Mem. Hosp., Runcorn <i>Thurs. a.m. and p.m. (Tel. Runcorn 2046)</i> Welfare Centre, Trinity Church House, <i>Alt. Tues. p.m. Frodsham</i>
DISTRICT No. 9 W. Kidd, Parkfield, Middlewich Road, Northwich Tel. Northwich 2186)	Acton Anderton Barnton Comberbach Crowton	Great Budworth Little Leigh Marbury Marston Weaverham
		Welfare Centre, Parish Hall, Weaverham <i>Alt. Tues. p.m.</i> Welfare Centre, Parkfield, Middlewich Road, <i>Thurs. p.m. (Tel. N'wich 2186)</i> School Clinic, C.E. School, Barnton <i>Thurs. a.m.</i> School Clinic, Council School, Weaverham <i>Tues. a.m.</i>
DISTRICT No. 10 E. Kidd, Parkfield, Middlewich Road, Northwich Tel. Northwich 2186)	Allstock Aston-by-Bud'th Bexton Goostrey Knutsford U.D. Lostock Gramam Mere Nether Peover Ollerton	Peover Inferior Peover Superior Pickmere Plumley Tabley Inferior Tabley Superior Toft Twemlow Wincham
		School Clinic, Lecture Hall, Brook Street, <i>Wed. p.m. Knutsford</i> Tuberculosis Dispensary, Orthopaedic Clinic Northwich <i>Tues. 4-30 pm. (Tel. Northwich 332)</i>
DISTRICT No. 11 E. Middlehurst, 9, Lee Drive, Northwich Tel. Northwich 4977) F. M. Ramsey, Briar Cottage, Daleford Lane, Whitegate, Northwich	Northwich U.D. (Witton and Northwich Wards) Northwich U.D. (Castle and Winnington Wards)	Welfare Centre, Darland House, Northwich <i>Tues. p.m.</i>
DISTRICT No. 12 G. Wells, Parkfield, Middlewich Road, Tel. N'wich 2186) Northwich	Cuddington Davenham Hartford Lach Dennis Little Budworth	Marton Moulton Oakmere Rudheath Whatcroft
		School Clinic, Parkfield, Middlewich Road, Northwich <i>Thurs. a.m. (Tel. Northwich 2186)</i> <i>Mon., Tues., Wed., Fri. p.m.</i>
DISTRICT No. 13 G. W. Johnson, Highfield, Swanlow Lane, Winsford Tel. Winsford 2387)	Winsford U.D.	Darnhall
		Welfare Centre, The Parsonage Weaver St., Winsford <i>Fri. p.m. (Tel. Winsford 2387)</i> School Clinic, The Parsonage, Weaver St., <i>Mon. and Wed. p.m., Fri. a.m.</i> (Tel. Winsford 2387)

HEALTH VISITORS (Contd.)

	CIVIL PARISHES	CENTRES, CLINICS & DISPENSARIES
DISTRICT No. 14 M. E. Fox The Priory, Middlewich (Tel. Middlewich 165)	Middlewich U.D. Bostock Byley Church Hulme Cranage	Moulton Sproston Stanthorne Wimboldsley
		Welfare Centre, The Priory, Middlewich <i>Mon. p.m.</i> (Tel. Middlewich 165) School Clinic, The Priory, Middlewich <i>Mon. a.m., Wed. and Fri. p.m.</i> (Tel. Middlewich 165)
DISTRICT No. 15 D. Lea, The Dowery, Barker Street, Nantwich (Tel. Nantwich 5360)	Nantwich U.D. Aston-juxta Mondrum Cholmondeston Church Minshull Henhull Leighton	Minshull Vernon Poole Warrington Wettenhall Woolstanwood Worleston
		Welfare Centre, The Dowery, Nantwich <i>Mon. and Thurs. p.m.</i> (Tel. Nantwich 5360) School Clinic, The Dowery, Nantwich <i>Mon.—Fri. a.m.</i> (Tel. Nantwich 5360)
DISTRICT No. 16 A. Merry (temporary), Willan Cottage, Crewe Road, Nantwich	Acton Alraham Audlem Austerson Baddiley Baddington Batherton Brindley Broomhall Buerton Bulkeley Bunbury Burland Calveley Cholmondeley Chorley Coole Pilate Dodcott-cum-Wilkesley Edleston	Faddiley Hankelow Hatherton Haughton Hunston Hurleston Newhall Peckforton Ridley Sound Spurstow Stapeley Stoke Walgherton Wardle Willaston Wistaston Woodcott Wrenbury Wybunbury
DISTRICT No. 17 R. Walch, Clifford House, Park Road, Willaston, Nantwich (temporarily transferred from No. 16 during absence of Nurse Percival with H.M. Forces)	CREWE M.B. Alsager U.D. Barthomley Basford Blakenhall Bridgemere Checkley-cum-Wrinehill Chorlton Church Lawton	Crewe (Rural) Doddington Haslington Hough Lea Rope Shavington-cum-Gresty Weston
		Welfare Centre, St. Mary's Sunday School, Crewe <i>Alt. Tues. p.m.</i> Welfare Centre, Yoxall Institute, Haslington <i>Alt. Tues. p.m.</i> Tuberculosis Dispensary, Memorial Hospital, Crewe <i>Mon. a.m. and p.m.</i> <i>Thurs. a.m.</i> (Tel. Crewe 133)
DISTRICT No. 18 E. S. Taylor, 76, Liverpool Road, Sankey, Warrington (Tel. Penketh 133)	Antrobus Appleton Daresbury Dutton Grappenhall Hatton Moore	Norton Preston Brook Stockton Heath Stretton Walton Whitley
		Welfare Centre, Methodist Sunday School, Norton <i>Alt. Mon. p.m.</i> Welfare Centre, Methodist Sunday School, Stockton Heath <i>Alt. Mon. p.m.</i>
DISTRICT No. 19 R. Meadows, 29, Eagle Brow, Lymm (Tel. Lymm 277)	Lymm U.D. Agden Bollington Carrington Dunham Massey	High Legh Millington Partington Warburton
		Welfare Centre, 29, Eagle Brow, Lymm <i>Tue. p.m.</i> (Tel. Lymm 277) Welfare Centre, St. Mary's Institute, Lymm <i>Alt. Thurs. p.m.</i> School Clinic, 29, Eagle Brow, Lymm <i>Mon.—Fri. a.m.</i> (Tel. Lymm 277) Tuberculosis Dispensary, General Hospital, Lymm <i>Fri. p.m.</i> (Tel. Alt. 2678) A
DISTRICT No. 20 M. Ross, 70, Chapel Road, Sale (Tel. Sale 1329) H. Wingfield, 70, Chapel Road, Sale (Tel. Sale 1329)	Sale M.B. (St. Martin's, St. Mary's, Mersey and West Wards) Sale M.B. (Central, East, North and South Wards)	Welfare Centre, 70, Chapel Road, Sale <i>Mon. and Thurs. p.m., 2nd Wed. p.m.</i> School Clinic, 70, Chapel Road, Sale <i>Mon.—Fri. a.m.</i> (Tel. Sale 1329) Ante-Natal Clinic, 70, Chapel Road, Sale <i>1st & 3rd Wed. p.m.</i> (Tel. Sale 1329) Artificial Sunlight Clinic, 70, Chapel Road, Sale <i>Tues. and Fri. p.m.</i> (Tel. Sale 1329) (temporarily suspended)
DISTRICT No. 21 E. Edwards, Kenilworth, Rivington Road, Hale, Altrincham	Altrincham M.B. Bowdon U.D. Hale U.D. Ashley	Ringway Rostherne Tatton
		Welfare Centre, Methodist School, Altrincham <i>Alt. Thurs. p.m.</i> School Clinic, 1, Hawthorn Road, Altrincham <i>Mon., Wed., Fri. p.m.</i> Tuberculosis Dispensary, General Hospital, Altrincham <i>Mon. 6 p.m., Wed. and Fri. a.m.</i> (Tel. Altrincham 1329)

	CIVIL PARISHES	CENTRES, CLINICS & DISPENSARIES
DISTRICT No. 22 M. Bell, Alma House, Altrincham Road, Wilmslow (Tel. Wilmslow 2635)	Alderley Edge U.D. Gt. Warford Wilmslow U.D. Marthall-cum- Chorley Warford Mobberley	Welfare Centre, Alma House, Wilmslow <i>Tu.s. p.m.</i> (Tel. Wilmslow 2635) Welfare Centre, Victory Hall, Mobberley <i>Alt. Thurs. p.m.</i> School Clinic, Alma House, Wilmslow <i>Wed. and Fri. p.m.</i> (Tel. Wilmslow 2635)
DISTRICT No. 23 M. Spencer, 4, Elm Drive Pownall Estate, Macclesfield	MACCLESFIELD M.B. North Rode Bosley Nether Alderley Chelford Over Alderley Eaton Prestbury Gawsworth Siddington Henbury Snelson Hulme Walfield Somerford Marton Somerford Booths Mottram-St.- Andrew Swettenham Winghamton	Welfare Centre, Methodist Sunday School, <i>Alt. Thurs. p.m. (v. No. 28)</i> Bollington Tuberculosis Dispensary, General Infirmary, <i>Mon. and Fri. p.m.</i> Macclesfield (Tel. Macclesfield 2913)
DISTRICT No. 24 Esme Owen, 12, West Street, Congleton (Tel. Congleton 169)	Sandbach U.D. Brereton Arclid Elton Betchton Hassall Bradwall Smallwood Tetton	Welfare Centre, Technical School, Sandbach <i>Alt. Tues. p.m.</i>
DISTRICT No. 25 G. F. Finger, 12, West Street, Congleton (Tel. Congleton 169)	CONGLETON M.B. Moreton-cum- Alcumlow Newbold Astbury Odd Rode	Welfare Centre, 12, West Street, Congleton <i>Mon. p.m.</i> (Tel. Congleton 169) Welfare Centre, Bank Sunday School, <i>Alt. Wed. p.m.</i> Mow Cop Welfare Centre, Parish Hall, Odd Rode <i>Alt. Wed. p.m.</i> Tuberculosis Dispensary, Chapel Street, <i>Fri. a.m.</i> Congleton Ante-Natal Clinic, 12, West Street, Congleton <i>2nd & 4th Thurs. p.m.</i> (Tel. Congleton 169)
DISTRICT No. 26 (a) S. Ward, 9, Grange Avenue, Cheadle Hulme (Tel. Cheadle Hulme 89) (b) M. Lee 54, Heathside Road, Cheadle Heath, Stockport	Cheadle and Gatley U.D. (Cheadle Hulme and Heald Green Wards) Cheadle and Gatley U.D. (Cheadle and Gatley Wards)	School Clinic, All Saints' Parish Room, <i>Fri. p.m.</i> Cheadle Hulme Welfare Centre, Mission Hall, Cheadle Hulme <i>Alt. Tues. p.m.</i> School Clinic, Literary Institute, Cheadle <i>Mon. and Wed. a.m.</i> Welfare Centre, Wesleyan Sunday School, <i>Alt. Tues. p.m.</i> Cheadle
DISTRICT No. 27 M. Billings, 20, Mill Lane, Hazel Grove, Stockport	Hazel Grove and Bramhall U.D. (except Woodford Ward)	Wesleyan Sunday School, Hazel Grove <i>Thurs. p.m.</i>
DISTRICT No. 28 C. Commins, 173, Coppice Road, Poynton Stockport	Bollington U.D. Poynton Adlington Rainow Hurdfield Sutton Kettleshulme Wildboarclough Lyme Handley Winle Macclesfield Forest Pott Shrigley Woodford [Ward]	Welfare Centre, Methodist Sunday School, <i>Alt. Thurs. p.m. (v. No. 23)</i> Bollington Welfare Centre, Methodist Sunday School, <i>Alt. Thurs. p.m.</i> Poynton
DISTRICT No. 29a C. Bradley, 32, Norfolk Street, Hyde	Bredbury and Romiley U.D. (Bredbury Ward)	Welfare Centre, Congregational Sunday <i>Tues. p.m.</i> School, Bredbury Tuberculosis Dispensary, Beeley Street, Hyde <i>Mon. a.m., Wed. 2 & 6 p.m.</i> (Tel. Hyde 587)
DISTRICT No. 29b M. Wilkinson, 5, Portland Place, Mottram Road, Stalybridge	Bredbury and Romiley U.D. (Romiley and Compstall Wards) STALYBRIDGE M.B.	Welfare Centre, Central Drive, Romiley <i>Thurs. p.m.</i> School Clinic, Central Drive, Romiley <i>Mon. p.m.</i> Tuberc. Dispen., Gt. Egerton St. Stockport <i>Tues. a.m.</i> (Tel. Stockport 2204)
DISTRICT No. 30 E. Ollerenshaw, 159, Talbot Road, Hyde (Tel. Hyde 806) S. Rushton, 132, Chapel St., Dukinfield	DUKINFIELD M.B. (East Ward) DUKINFIELD M.B. (Central and West Wards)	Welfare Centre, 212, Astley Street, Dukinfield <i>Wed. and Thurs. p.m.</i> (Tel. Ashton 2261, Ext. 15)
DISTRICT No. 31 A. Bullough, 24, Windsor Road, Hyde	HYDE M.B. Longdendale U.D. Tintwistle R.D.	Welfare Centre, St. Mary's Sunday School, <i>Alt. Wed. p.m.</i> Hollingworth
DISTRICT No. 32 S. Dickson, Bute House, Marple Bridge, Stockport (Tel. Marple 177)	Marple U.D. Disley R.D.	Welfare Centre, Housewifery Centre, Disley <i>Alt. Tues. p.m.</i> Welfare Centre, Girls' Institute, Marple <i>Wed. p.m.</i> Welfare Centre, Methodist Sunday School, <i>Alt. Thurs. p.m.</i> Marple Bridge

COUNTY MIDWIVES (70)

No.	Name	Address	Telephone
1	M. N. Parr	29, Manor Road, Hoylake	Hoylake
2	S. E. Peacock	5, Broughton Avenue, West Kirby	Hoylake
3			
4	M. Boothroyd	20, Larchwood Drive, Woodhey, Bebington	Rock Ferry
5	A. E. Hamer	105, Alport Lane, Bromborough	Bromborough
6	M. Uytendhal	19, Bolton Road East, New Ferry	Rock Ferry
7	M. E. Wright	Fernbank, 4, Bromborough Road, Bebington	Rock Ferry
8	R. Baines	Sunnymede, Liverpool Road, Neston	Neston
9	L. M. Bradshaw	Newlands, Berwick Gardens, Little Sutton	Hooton
10	E. Butler	Mersey View, Pooltown Road, Whitby	E. Port
11	V. E. Corson	Dormy, Wilkinson Street, Ellesmere Port	E. Port
12	E. Davies	17, Wolverham Road, Whitby	E. Port
13	A. E. Williams	6, York Road, Ellesmere Port	E. Port
14	E. E. West	20, Halkyn Road, Chester	Chester
15	E. McAllister	73, Green Lane, Chester	Christleton
16	J. Wright	Fermoy, New Road, Tarvin	Tarvin
17	E. A. Cooke	13, Waterloo Road, Runcorn	Runcorn
18	G. Minshall	20, Leinster Street, Runcorn	Runcorn
19	E. Holt	Brynton, Heath Road, Runcorn	Runcorn
20	B. Smith	34, Russell Road, Runcorn	Runcorn
21	J. Elliott	88, Knutsford Road, Grappenhall	Grappenhall
22	A. J. Carroll	1, Stetchworth Road, Walton, Stockton Heath	Stk'ton Heath
23	N. Jones	71, East Avenue, Rudheath, Northwich	Northwich
23a	E. M. Lowe	13, Middlewich Road, Northwich	Northwich
24	A. Orme	95, Victoria Road, Northwich	Northwich
25	M. Court	117, Delamere Street, Over, Winsford.....	Winsford
26	A. E. Hough	Beaumont, St. Ann's Road, Middlewich	Middlewich
27	E. A. Bimson	20, Gatefield Street, Crewe	Crewe
28	D. Broad	234, Hungerford Road, Crewe	Crewe
29	N. W. Brookes	41, Samuel Street, Crewe	Crewe
30	L. E. Hart	129, Derrington Avenue, Crewe	Crewe
31	E. G. Williams	282, Broad Street, Crewe	Crewe
32	M. E. Wood	81, Lord Street, Crewe	Crewe
33	E. Jones	12, Well Lane, Alsager	Alsager
34	A. Wardle	3, Manor Road, Lymm.....	Lymm
35			
36	E. Gibson	93, Carrington Lane, Sale	Sale
37	H. Gilbody	192, Northenden Road, Sale Moor, Sale	Sale
38	D. Lindley	65, Derbyshire Road South, Sale	Sale
39	K. McSweeney	27, Glebelands Road, Sale	Sale
40	A. Whittle	220, Manchester Rd., Broadheath, Altrincham	Altrincham
41	S. Leigh	5, Poplar Avenue, Altrincham	Altrincham
42			
43	M. A. Fittes	Dunham Woodhouses, Dunham Massey	Altrincham
44	L. Starkey	1, Bancroft Road, Hale	Ringway
45	D. Harper	Cranford, Bradwall Road, Sandbach	Sandbach
46	A. A. Rowley	51, Swan Street, Congleton	Congleton
47	R. H. Frost	Brook Bank, Townsend Road, Congleton	Congleton
48	M. A. Lane	3, Vaudrey Crescent, Congleton	Congleton
49	C. Bayliss	94, Councillor Lane, Cheadle	Gatley
49a	E. M. Newman	46, Victoria Avenue, Cheadle Hulme	Ch'le Hulme
50	F. W. Hampson	335, London Road, Hazel Grove	Great Moor
51	S. P. Faulkner	99, Hawthorn Street, Wilmslow	Wilmslow
52	E. Lloyd	26, Bridge Street, Macclesfield.....	Macclesfield
53	N. Heap	46, Western Avenue, Macclesfield	Macclesfield
54	G. H. Robinson	249, Peter Street, Macclesfield.....	Macclesfield
55	E. Fairclough	59, Maple Avenue, Macclesfield	Macclesfield

COUNTY MIDWIVES (contd.)

No.	Name	Address	Telephone
56	D. Tomlinson	7, Clegg Street, Macclesfield	Macclesfield 2073
57	A. D. Hall	47, Taylor Street, Hollingworth	Mottram 214
58	L. Purvey	184, Huddersfield Road, Stalybridge	Stalybridge 2483
59	N. Robinson	4, Acres Lane, Stalybridge	Stalybridge 2821
60	H. Kirkham	128, Lindsay Street, Stalybridge	Stalybridge 2383
61			
62	A. Lees	90, Astley Street, Dukinfield	Ashton 1073
63	A. E. Marten	218, Birch Lane, Dukinfield	Stalybridge 2443
64	L. Kitchen	7, Elm Grove, Hyde	Hyde 789
65	L. Sambrook	57, Woodfield Avenue, Hyde	Hyde 786
66	M. P. Turner	24, Lodge Lane, Flowery Field, Hyde.....	Hyde 798
66a	E. Cannell	123, Talbot Road, Hyde	Hyde 915
67	L. Jones	106, Arden Park, Bredbury	Woodley 2492

Dental Nurses (12)

D. Babington	211, Fog Lane, Didsbury, Levenshulme, Manchester.
D. Griffiths	Mendell Lodge, Chester Road, Eastham.
M. Howarth	9, Lee Drive, Castle, Northwich.
V. Newman	c/o Mivan, Mill Lane, Upton-by-Chester.
W. Parkin	Fernlea, Moss Lane, Bramhall, Stockport
G. Rees	46, George's Crescent, Grappenhall, Warrington.
E. M. Reynolds	6, Beech Road, Lower Bebington (temporary).
J. Smith	74, Cambridge Road, Park Lane, Macclesfield.
D. Thompson	Homestead, Ashley, Market Drayton.
E. Toft	The Manor, Mickle Trafford, Chester.
G. M. Watts	3, Highbury Road, Alexandra Park, Manchester.
M. Winnel	11, Cranleigh Drive, Cheadle.

Superintendent Clerk — — Vincent O'Connor.

Offices—24, Nicholas Street, Chester. Telephone No. 2305 (2 lines).

PUBLIC VACCINATORS and POOR LAW MEDICAL OFFICERS.

No. 1 (BUCKLOW) AREA.

District No. 1 (Altrincham).

Altrincham M.B.	Bowdon U.D.	Hale U.D.
	Dunham Massey	

Public Vaccinator } H. A. Logan, Manor House, Woodlands Road,
Medical Officer } Altrincham.*

District No. 2 (Knutsford South).

Bexton	Marthall-cum-	Ollerton
Peover Inferior	Warford	Peover Superior
Plumley	Toft	

Public Vaccinator— } H. Bowring, Tithe House, Chelford Road,
Medical Officer— } Knutsford.

District No. 3 (Knutsford North).

Knutsford U.D.	Agden	Aston-by-Budworth
Bollington	High Legh	Mere
Millington	Pickmere	Rostherne
Tabley Inferior	Tabley Superior	Tatton

Public Vaccinator— } H. Bowring, Tithe House, Chelford Road,
Medical Officer— } Knutsford.

District No. 4 (Lymm).

Lymm U.D.

Public Vaccinator— } F. Wraith, Footscray, Lymm.
Medical Officer— }

District No. 5 (Sale).

Sale M.B.	Carrington	Partington
	Warburton	

Public Vaccinator— } J. J. Cruickshank, Lindenholme, Sale.
Medical Officer— }

District No. 6 (Wilmslow).

Alderley Edge U.D.	Wilmslow U.D.	Ashley
Mobberley	Ringway	

Public Vaccinator— } R. Bennett, Borrowdale, Stanneylands Road,
Medical Officer— } Wilmslow.

No. 2 (MACCLESFIELD AND CONGLETON) AREA.

District No. 1 (Macclesfield).

Macclesfield M.B.

Public Vaccinator— } S. F. Clegg, Skelwith, Upton, Macclesfield.
Medical Officer— }

* Public Vaccinator from 23/8/40.

No. 2 (Macclesfield and Congleton) Area—Continued.**District No. 2 (Sutton and Rainow).**

Gawsworth	Hurdsfield	Kettleshulme
Macclesfield Forest	Rainow	Sutton
Wildboardclough	Wincle	

Public Vaccinator— } A. C. Gillies, 195, Park Lane, Macclesfield.
 Medical Officer— }

District No. 3 (Alderley).

Alderley Nether	Alderley Over	Chelford
Chorley	Henbury	Siddington
Snelson	Warford Great	Withington

Public Vaccinator— } E. S. Evans, Roadside, Chelford, Crewe.
 Medical Officer— }

District No. 4 (Bollington).

Bollington U.D.	Disley R.D.	Lyme Handley
Mottram St. Andrew	Pott Shrigley	Prestbury

Public Vaccinator— } G. Coope, The Waterhouse, Bollington, nr.
 Medical Officer— } Macclesfield.

District No. 5 (Eaton and Marton).

Bosley	Eaton	Marton
	North Rode	

Public Vaccinator— } R. B. Davidson, Damian House, Congleton.
 Medical Officer— }

District No. 6 (Poynton).

Adlington	Poynton-with-Worth	Woodford
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Public Vaccinator— } N. Cox, London Road, Poynton, nr. Stockport.
 Medical Officer— }

District No. 7 (Congleton).

Congleton M.B.	Hulme Walfield	Moreton-cum-
Newbold Astbury	Somerford	Alcumlow
	Somerford Booths	

Public Vaccinator }
 Medical Officer } A. J. Pirie, Moody Hall, Congleton.*

District No. 8 (Sandbach).

Sandbach U.D.	Arclid	Betchton
Bradwall	Elton	Hassall
Smallwood	Tetton	

Public Vaccinator— } A. Henderson, West View, Sandbach.
 Medical Officer— }

District No. 9 (Alsager).

Alsager U.D.	Church Lawton	Odd Rode
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Public Vaccinator— A. Henderson, West View, Sandbach
 Medical Officer— G. Bates, Lawton Road, Alsager.

District No. 10 (Church Hulme).

Brereton	Church Hulme	Cranage
Goostrey	Swettenham	Twemlow

Public Vaccinator— } L. J. Picton, Saddler's Close, Holmes Chapel.
 Medical Officer— }

*Public Vaccinator from 1/3/40

No. 3 (NANTWICH) AREA.

District No. 1 (Audlem).

Audlem	Buerton	Coole Pilate
Dodcot-cum-	Hankelow	Newhall (Part of *)
Wilkesley (Part of *)		

Public Vaccinator— } G. C. Thornton, Beech House, Audlem, Crewe
 Medical Officer— }

District No. 2 (Bunbury).

Alpraham	Bickerton	Bulkeley
Bunbury	Calveley	Egerton
Haughton	Peckforton	Ridley
Spurstow	Wardle	Wettenhall

Public Vaccinator— } M. M. F. Arthur, Birchfield, Bunbury.
 Medical Officer— }

District No. 3 (Crewe North).

Crewe M.B. (North †)	Leighton	Minshull Vernon
Warmingham	Woolstanwood	

Public Vaccinator— } M. Parkes, Helmsville, Crewe.
 Medical Officer— }

District No. 4 (Crewe South).

Crewe M.B. (South ‡)	Rope	Shavington-cum-
Wistaston		Gresty

Public Vaccinator— } W. G. Murray, 144, Nantwich Road, Crewe.
 Medical Officer— }

District No. 5 (Haslington).

Barthomley	Basford	Crewe Rural
Haslington	Weston	

Public Vaccinator— } W. L. English, High Street, Haslington, Crewe.
 Medical Officer— }

District No. 6 (Nantwich).

Nantwich U.D.	Acton	Aston-juxta-Mondrum
Baddington	Batherton	Brindley
Burland	Cholmondeston	Church Minshull
Edleston	Faddiley	Hénhull
Hurleston	Poole	Stoke
Willaston	Worleston	

Public Vaccinator— } S. Johnstone, Kiltearn House, Nantwich.
 Medical Officer— }

* Such part of these Parishes as lies East of a line formed by the Barnett Brook from the County boundary to its junction with the River Weaver, and thence by the River Weaver to the boundary of the Parish of Broomhall.

† Such part of Crewe M.B. as lies North of a line formed by West Street, Hightown, Victoria Street, Market Street, Earl Street, Hungerford Road.

‡ Such part of Crewe M.B. as lies South of the line defined in note † above.

No 3 (Nantwich) Area—Continued.**District No. 7 (Wrenbury).**

Baddiley	Broomhall	Cholmondeley
Chorley	Dodcot-cum-	Marbury-cum-
Newhall (Part *)	Wilkesley (Part *)	Quoisley
Norbury	Sound	Wirswall
Woodcott	Wrenbury-cum-Frith	

Public Vaccinator— } R. E. Loney, Wrenbury.
 Medical Officer— }

District No. 8 (Wybunbury).

Austerson	Blakenhall	Bridgemere
Checkley-cum-	Chorlton	Doddington
Wrinehill	Hatherton	Hough
Hunsterson	Lea	Stapeley
Walgherton	Wybunbury	

Public Vaccinator— } O. H. Blacklay, 148, Hospital Street, Nantwich.
 Medical Officer— }

No. 4 (NORTHWICH AND RUNCORN) AREA.**District No. 1 (Northwich No. 1).**

Northwich U.D.	Lostock Gralam	Marbury
(Witton & Northwich Wards)		
Marston	Wincham	

Public Vaccinator— } J. B. Fulton, 162, Witton Street, Northwich
 Medical Officer— }

District No. 2 (Northwich No. 2).

Northwich U.D.	Anderton	Barnton
(Castle & Winnington Wards)		
Comberbach	Hartford	

Public Vaccinator— } J. W. Craw, Rose Bank, Chester Road, Northwich
 Medical Officer— }

District No. 3 (Winsford).

Winsford U.D.	Darnhall	Little Budworth
Marton	Moulton	

Public Vaccinator— } W. N. Leak, Dingle House, Winsford.
 Medical Officer — }

District No. 4 (Weaverham).

Acton	Crowton	Cuddington
Delamere	Little Leigh	Oakmere
	Weaverham-cum-	Norley
	Milton	

Public Vaccinator— } W. G. Shaw, Ivy House, Weaverham.
 Medical Officer— }

District No. 5 (Middlewich).

Middlewich U.D.	Allostock	Bostock
Byley	Davenham	Lach Dennis
Nether Peover	Rudheath	Sproston
Stanthorne	Whatcroft	Wimboldsley

Public Vaccinator— } J. Murphy, The Beeches, Middlewich.
 Medical Officer— }

* Such part of these Parishes as lies West of the line defined in note * on page 15.

No. 4 (Northwich & Runcorn) Area—Continued.**District No. 6 (Runcorn).**

Runcorn U.D.	Aston	Halton
Norton	Sutton	
Public Vaccinator—	} J. B. Murphy, 1, Queen Street, Runcorn.	
Medical Officer—		

District No. 7 (Budworth).

Antrobus	Appleton	Budworth, Great
Daresbury	Dutton	Grappenhall
Hatton	Moore	Preston Brook
Stockton Heath	Stretton	Walton
	Whitley	
Public Vaccinator—	} C. E. W. Bower, Viewfield, Stretton, Warrington.	
Medical Officer—		

District No. 8 (Frodsham).

Alvanley	Frodsham	Helsby
Kingsley	Manley	
Public Vaccinator—	H. H. James, The Knoll, Frodsham.	
Medical Officer—	H. B. Ellison, Brentwood, Red Lane, Frodsham.	

District No. 9 (Tarpoley).

Rushton	Tarpoley	Utkinton
Public Vaccinator—	} P. A. Campbell, Glenthorne, Tarpoley.	
Medical Officer—		

No. 5 (TARVIN) AREA.**District No. 1 (Hoole).**

Hoole U.D.	Bache	Backford
Barrow-by-Tarvin	Bridge Trafford	Caughall
Chorlton-by-Backford	Christleton	Croughton
Dunham-on-the-Hill	Elton	Great Boughton
Guilden Sutton	Hapsford	Hoole Village
Huntington	Little Stanney	Littleton
Moston	Picton	Rowton
Saighton	Stoke	Thornton-le-Moors
Upton-by-Chester	Wervin	Wimbolds Trafford
Public Vaccinator—	} W. J. A. Russell, The Limes, Hoole.	
Medical Officer—		

District No. 2 (Chester Rural).

Aldford	Buerton	Capenhurst
Chester Castle	Churton Heath	Claverton
Dodleston	Eaton	Eccleston
Great Saughall	Lea-by-Backford	Lea Newbold
Ledsham	Little Saughall	Lower Kinnerton
Marlston-cum-Lache	Mollington	Poulton
Puddington	Pulford	Shotwick
Shotwick Park	Woodbank	
Public Vaccinator—	} R. R. Smith, Old Bars House, Foregate Street,	
Medical Officer—		Chester.

District No. 3 (Tarvin).

Ashton	Bruen Stapleford	Burton-by-Tarvin
Clotton Hoofield	Duddon	Foulk Stapleford
Hockenhull	Horton-cum-Peel	Huxley
Iddenshall	Kelsall	Mouldsworth
Pryor's Hayes	Tarvin	Tilstone Fearnall
Tiverton	Willington	
Public Vaccinator—	} C. R. Fielding, Kelsall.	
Medical Officer—		

No. 5 (Tarvin) Area—Continued.**District No. 4 (Tattenhall).**

Aldersey	Beeston	Broxton
Burwardsley	Chowley	Clutton
Cotton Abbotts	Cotton Edmunds	Golborne Bellow
Golborne David	Handley	Harthill
Hatton	Newton-by-Tattenhall	Tattenhall
	Waverton	

Public Vaccinator— } M. Dwyer, Church Bank, Tattenhall.
 Medical Officer— }

District No. 5 (Farndon).

Barton	Caldecott	Carden
Church Shocklach	Churton-by-Aldford	Churton-by-Farndon
Coddington	Crewe-by-Farndon	Edgerley
Farndon	Grafton	Horton-by-Malpas
Kings Marsh	Shocklach Oviatt	Stretton-by-Malpas
	Tilston-by-Malpas	

Public Vaccinator— } J. Alexander, Holly Bank, Farndon.
 Medical Officer— }

District No. 6 (Malpas).

Agden	Bickley	Bradley
Chidlow	Chorlton-by Malpas	Cuddington-by-
Duckington	Edge	Malpas
Hampton	Larkton	Macefen
Malpas	Newton-by-Malpas	Oldcastle
Overton-by-Malpas	Stockton	Threapwood
Tushingham-cum-	Wigland	Wychough
Grindley		

Public Vaccinator— } L. T. Pollard, Prospect House, Malpas.
 Medical Officer— }

No. 6 (WIRRAL) AREA.**District No. 1 (Bebington).**

Bebington M.B.

Public Vaccinator— } J. W. Cowen, 36, Heath Road, Bebington.
 Medical Officer— }

District No. 2 (Neston and Wirral).

Neston U.D. Wirral U.D.

Public Vaccinator—G. Gunn, Parkgate Road, Neston
 Medical Officer—R. L. Turner, 1, Heath Drive, Heswall.

District No. 3 (Hoylake).

Hoylake U.D.

Public Vaccinator— } G. H. Brown, Melwood, Birkenhead Road,
 Medical Officer— } Meols.

District No. 4 (Ellesmere Port).

Ellesmere Port U.D.

Public Vaccinator— } R. F. Gerrard, 113, Station Road, Ellesmere
 Medical Officer— } Port.

No. 7 (STALYBRIDGE AND DUKINFIELD) AREA.**District No. 1 (Stalybridge No. 1).**

Stalybridge M.B. (Part of *)

Public Vaccinator—W. E. C. Thomas, Bank House, Stalybridge.
Medical Officer—F. Maclean, 60, Grosvenor Street, Stalybridge**District No. 2 (Stalybridge No. 2).**

Stalybridge M.B. (Part of †)

Public Vaccinator— } W. E. C. Thomas, Bank House, Stalybridge.
Medical Officer— }**District No. 3 (Dukinfield).**

Dukinfield M.B.

Public Vaccinator— } J. Macfie, Clarendon House, Dukinfield.
Medical Officer— }**District No. 4 (Longdendale).**

Longdendale U.D. Tintwistle R.D.

Public Vaccinator— } E. Talbot, Prospect House, Mottram.
Medical Officer— }**No. 8 (HYDE AND CHEADLE) AREA.****District No. 1 (Hyde).**

Hyde M.B.

Public Vaccinator— } M. W. Paterson, Norbury House, Hyde.
Medical Officer— }**District No. 2 (Cheadle).**

Cheadle and Gatley U.D.

Public Vaccinator— } T. S. Hanlin, 26, Wilmslow Road, Cheadle.
Medical Officer— }**District No. 3 (Hazel Grove).**

Hazel Grove and Bramhall U.D.

Public Vaccinator— } M. V. Shanahan, 267, London Road, Hazel
Medical Officer— } Grove.**District No. 4 (Bredbury).**

Bredbury and Romiley U.D.

Public Vaccinator— } P. V. Cant, Woodley, nr. Stockport.
Medical Officer— }**District No. 5a (Marple No. 1).**

Marple U.D. (excluding Ludworth Ward).

Public Vaccinator— } W. A. Jackson, Glengarth, Marple.
Medical Officer— }**District No. 5b (Marple No. 2).**

Marple U.D. (Ludworth Ward).

Public Vaccinator— } A. G. Hastings, Overdale, Station Road,
Medical Officer— } Marple.

*The part lying on the North-West side of the River Tame

†The part lying on the South-East side of the River Tame.

VACCINATION OFFICERS and REGISTRARS

(1931 populations of districts as constituted 1/4/39 are given in brackets)

AREA A—BUCKLOW.

District No. 1—Altrincham (45043).

Altrincham M.B.	..	(29353)	Ashley	..	..	(359)
Bowdon U.D.	..	(3341)	Dunham Massey	..	..	(716)
Hale U.D.	..	(11011)	Ringway	..	..	(263)
Vaccination Officer	} W. Fryer, 5, Springfield Road, Altrincham.					
Registrar						

District No. 2—Knutsford (20062).

Knutsford U.D.	..	(6173)	Partington	..	..	(816)
Lymm U.D.	..	(5637)	Peover Inferior	..	..	(100)
Agden	..	(87)	Peover Superior	..	..	(617)
Aston-by-Budworth	..	(364)	Pickmere	..	..	(320)
Bexton	..	(14)	Plumley	..	..	(459)
Bollington	..	(174)	Rostherne	..	..	(284)
High Legh	..	(688)	Tabley Inferior	..	..	(117)
Marthall-cum-Warford	..	(626)	Tabley Superior	..	..	(351)
Mere	..	(379)	Tatton	..	..	(61)
Millington	..	(258)	Toft	..	..	(156)
Mobberley	..	(1753)	Warburton	..	..	(354)
Ollerton	..	(274)				
Vaccination Officer	} Mrs. Shaw, 23, St. John's Avenue, Knutsford.					
Registrar						

District No. 3—Sale (28575).

Sale M.B.	..	(28071)	Carrington	..	..	(504)
Vaccination Officer	—H. T. Mercer, 14, Fownhope Avenue, Sale.					
Registrar	—A. W. Highet, Register Office, Westminster Bank Buildings, School Road, Sale.					

District No. 4—Wilmslow (15235).

Alderley Edge U.D.	..	(3279)	Wilmslow U.D.	..	(11956)
Vaccination Officer	}	R. G. Rathbone, Bank Square Buildings,			
Registrar		Wilmslow.			

AREA B—MACCLESFIELD.

District No. 1—Congleton (14666).

Congleton M.B...	..	(14666)	
Vaccination Officer	}	S. A. Bevan, 8, Park View, Congleton.	
Registrar			

District No. 2 (a)—Macclesfield (a) (21936).

Bollington U.D.	..	(5062)	Mottram-St.-Andrew	..	(526)
Adlington	..	(687)	Nether Alderley	..	(757)
Bosley	..	(359)	North Rode	..	(268)
Chelford	..	(341)	Over Alderley	..	(332)
Chorley	..	(376)	Pott Shrigley	..	(441)
Eaton	..	(239)	Poynton	..	(3944)
Gawsworth	..	(668)	Prestbury	..	(1103)
Great Warford	..	(882)	Rainow	..	(1109)
Henbury	..	(404)	Siddington	..	(441)
Hurdsfield	..	(428)	Snelson	..	(200)
Kettleshulme	..	(346)	Sutton	..	(1404)
Lyme Handley	..	(211)	Wildboarclough	..	(169)
Macclesfield Forest	..	(125)	Windle	..	(208)
Marton	..	(249)	Withington	..	(656)

Vaccination Officer—G. B. Sturley, Relief Office, Lyme Terrace, Poynton.
Registrar—M. A. Bevan, Old County Police Buildings, Macclesfield.

Area B—Macclesfield—Continued.**District No. 2 (b)—Macclesfield (b) (35552).**

Macclesfield M. B. . . . (35552)

Vaccination Officer—A. Millward, 84, Prestbury Road, Macclesfield.

Registrar—M. A. Bevan, Old County Police Buildings, Macclesfield.

AREA C—CREWE.**District No. 1 (a)—Crewe (a) (48321).**

Crewe M.B. . . . (48321)

Vaccination Officer } R. H. Lewis, 1, Gatefield Street, Crewe.

Registrar }

District No. 1 (b)—Crewe (b) (7550).

Barthomley . . . (257) Shavington . . . (1563)

Basford . . . (177) Warrington . . . (202)

Crewe (Rural) . . . (177) Weston . . . (490)

Haslington . . . (2882) Wistaston . . . (1260)

Leighton . . . (137) Woolstanwood . . . (81)

Minshull Vernon . . . (324)

Vaccination Officer—C. Griffiths, 1, Gatefield Street, Crewe.

Registrar—R. H. Lewis, 1, Gatefield Street, Crewe.

District No. 2 (a)—Nantwich (a) (16361).

Nantwich U.D. . . . (8639) Edleston . . . (60)

Acton . . . (206) Faddiley . . . (211)

Aston-juxta-Mondrum . . . (139) Hatherton . . . (287)

Austerson . . . (50) Henhull . . . (97)

Baddiley . . . (219) Hough . . . (299)

Baddington . . . (104) Hunsterston . . . (175)

Batherton . . . (53) Hurleston . . . (110)

Blakenhall . . . (178) Lea . . . (37)

Bridgemere . . . (149) Poole . . . (114)

Brindley . . . (187) Rope . . . (92)

Burland . . . (595) Stapeley . . . (510)

Checkley-cum-Wrinehill . . . (235) Stoke . . . (213)

Cholmondeston . . . (158) Walgherton . . . (159)

Chorlton . . . (76) Willaston . . . (1664)

Church Minshull . . . (265) Worleston . . . (370)

Doddington . . . (66) Wybunbury . . . (644)

Vaccination Officer } A. O. Davies, 1, Park Road, Nantwich.

Registrar }

District No. 2 (b)—Nantwich (b) (8597).

Alraham . . . (436) Haughton . . . (150)

Audlem . . . (1346) Marbury-cum-Quoisley . . . (282)

Bickerton . . . (259) Newhall . . . (645)

Broomhall . . . (184) Norbury . . . (271)

Buerton . . . (421) Peckforton . . . (161)

Bulkeley . . . (120) Ridley . . . (160)

Bunbury . . . (910) Sound . . . (243)

Calvey . . . (270) Spurstow . . . (333)

Cholmondeley . . . (278) Wardle . . . (140)

Chorley . . . (162) Wettenhall . . . (186)

Coole Pilate . . . (52) Wirswall . . . (158)

Dodcott-cum-Wilkesley . . . (547) Woodcott . . . (18)

Egerton . . . (101) Wrenbury . . . (589)

Hankelow . . . (175)

Vaccination Officer—F. E. Davenport, 58, The Crofts, Nantwich.

Registrar—A. O. Davies, 1, Park Road, Nantwich.

District No. 3 (a)—Sandbach (a) (3183).

Brereton	(550)	Goostrey	(629)
Church Hulme	(1143)	Swettenham	(279)
Cranage	(475)	Twemlow	(107)

Vaccination Officer—P. Richardson, 44, Middlewich Road, Holmes Chapel

Registrar—A. O. Davies, 1, Park Road, Nantwich.*

District No. 3 (b)—Sandbach (b) (18812).

Alsager U.D.	(2852)	Hulme Walfield	(61)
Sandbach U.D.	(8267)	Moreton	(130)
Arclid	(306)	Newbold Astbury	(546)
Betchton	(614)	Odd Rode	(3307)
Bradwall	(242)	Smallwood	(615)
Church Lawton	(874)	Somerford	(102)
Elton	(161)	Somerford Booths	(162)
Hassall	(318)	Tetton	(255)

Vaccination Officer } A. O. Davies, 1, Park Road, Nantwich.*
Registrar }

AREA D—NORTHWICH.**District No. 1—Northwich (37756).**

Northwich U.D.	(20827)	Lach Dennis	(193)
Acton	(551)	Little Leigh	(422)
Allostock	(436)	Lostock Gralam	(1095)
Anderton	(329)	Marbury	(37)
Barnton	(3198)	Marston	(530)
Comberbach	(481)	Nether Peover	(200)
Crowton	(474)	Rudheath	(2728)
Cuddington	(1100)	Weaverham	(2714)
Hartford	(1424)	Wincham	(1017)

Vaccination Officer } S. S. Trevor, Winnington Hill, Northwich.
Registrar }

District No. 2—Winsford (26454).

Middlewich U.D.	(5857)	Moulton	(1223)
Winsford U.D.	(11346)	Oakmere	(455)
Bostock	(156)	Rushton	(503)
Byley	(191)	Sproston	(210)
Darnhall	(228)	Stanthorne	(169)
Davenham	(1740)	Tarporley	(1382)
Delamere	(1114)	Utkinton	(586)
Little Budworth	(530)	Whatcroft	(119)
Marton	(500)	Wimboldsley	(145)

Vaccination Officer } O. Parry, Mayfield, St. George's Road, Winsford.
Registrar }

* Temporarily during absence of Mr. A. G. Skellern,
with H.M. Forces.

AREA E—RUNCORN.**District No. 1—Stockton Heath (15376).**

Antrobus	(682)	Moore	(458)
Appleton	(1196)	Preston Brook	(397)
Daresbury	(319)	Stockton Heath	(6110)
Dutton	(546)	Stretton	(371)
Grappenhall	(2742)	Walton	(1301)
Great Budworth.. ..	(447)	Whitley	(510)
Hatton	(297)		
Vaccination Officer	} A. J. Massey, 33, Fairfield Road, Stockton		
Registrar		Heath.	

District No. 2—Runcorn (34791).

Runcorn U.D.	(22587)	Kingsley	(1456)
Alvanley	(287)	Manley	(840)
Aston	(256)	Norley	(871)
Frodsham	(4703)	Norton	(158)
Halton	(1020)	Sutton	(631)
Helsby	(1982)		
Vaccination Officer	} H. V. Davies, Council Offices, Waterloo Road,		
Registrar		Runcorn.	

AREA F—HYDE.**District No. 1—Stalybridge (31515).**

Stalybridge M.B. ..	(24978)	Longdendale U.D. ..	(5145)
Tintwistle R.D. ..	(1392)		
Vaccination Officer	} N. Potts, Union Bank Chambers, Market Street,		
Registrar		Stalybridge.	

District No. 2—Hyde (32313).

Hyde M.B.	(32313)		
Vaccination Officer	} H. Morton, 30 Market Place, Hyde.		
Registrar			

District No. 3—Dukinfield (19385).

Dukinfield M.B. ..	(19385)		
Vaccination Officer	} Mrs. A. Hewitt, 62, Mary Street, Dukinfield.		
Registrar			

AREA G—NORTH EAST CHESHIRE.**District No. 1—Bredbury (11690).**

Bredbury and Romiley U.D. (11690)
Vaccination Officer—H. Whalley, Shaw Heath, Stockport.
Registrar—E. Love, Council Offices, Bredbury.

District No. 2—Hazel Grove (26880).

Hazel Grove and		Marple U.D.	(11088)
Bramhall U.D. ..	(13178)	Disley R.D.	(2614)
Vaccination Officer	} F. Ardern, Council Offices, Hazel Grove.		
Registrar			

District No. 3—Cheadle (18535).

Cheadle and Gatley U.D. (18535)
Vaccination Officer—J. H. Johnson, 77, High Street, Cheadle.
Registrar—W. S. Marsh, 11, Ashfield Road, Cheadle.

AREA H—WIRRAL.**District No. 1—East Wirral (31877).**

Bebington M.B. .. (31877)

Vaccination Officer	}	A. Clough,* 2, Egerton Road, New Ferry.
Registrar		

District No. 2 (a)—West Wirral (a) (19745).

Hoylake U.D. .. (19745)

Vaccination Officer	}	J. R. Bird, 40 Trinity Road, Hoylake.
Registrar		

District No. 2 (b)—West Wirral (b) (17510).

Neston U.D. .. (7911) Wirral U.D. .. (9599)

Vaccination Officer—W. Roberts, Hinderton Road, Neston.

Registrar—J. R. Bird, 40, Trinity Road, Hoylake.

AREA J—WEST CHESHIRE.**District No. 1 (a)—Chester Castle (a)† (20410).**

Hoole U.D. (5892)	Lea-by-Backford (165)
Aldford (347)	Lea Newbold (39)
Bache (62)	Ledsham (173)
Backford (124)	Little Saughall (304)
Barrow-by-Tarvin (910)	Little Stanney (170)
Bridge Trafford (50)	Littleton (336)
Buerton (61)	Lower Kinnerton (113)
Capenhurst (157)	Marlston-cum-Lache (60)
Caughall (13)	Mickle Trafford (263)
Chester Castle (228)	Mollington (350)
Christleton (997)	Moston (81)
Chorlton-by-Backford (82)	Picton (97)
Churton Heath (15)	Poulton (119)
Claverton —	Puddington (332)
Croughton (21)	Pulford (261)
Dodleston (247)	Rowton (168)
Dunham-on-the-Hill (316)	Saighton (347)
Eaton (143)	Shotwick (73)
Eccleston (291)	Shotwick Park (26)
Elton (252)	Stoke (101)
Great Boughton (1862)	Thornton-le-Moors (166)
Great Saughall (865)	Upton-by-Chester (2667)
Guilden Sutton (382)	Wervin (103)
Hapsford (112)	Wimbolds Trafford (73)
Hoole Village (162)	Woodbank (88)
Huntington (144)	

Vaccination Officer—	}	A. Hull, 7 & 8, Godstall Chambers, Chester.
Registrar—		

District No. 1 (b)—Chester Castle (b) (23057).

Ellesmere Port U.D. (23057)

Vaccination Officer—A. Clough,* 2, Egerton Road, New Ferry.

Registrar—A. Hull, 7 & 8, Godstall Chambers, Chester.

* Vaccination Officer for H 1 and J 1 (b).

† This district comprises Hoole U.D. and Chester R.D.

Area J—West Cheshire—*Continued.***District No. 2—Tarvin Rural * (14388).**

Agden	(75)	Hampton.. ..	(366)
Aldersey	(92)	Handley	(250)
Ashton	(430)	Harthill	(95)
Barton	(103)	Hatton	(132)
Beeston	(268)	Hockenhull	(21)
Bickley	(302)	Horton	(120)
Bradley	(136)	Horton-cum-Peel	(37)
Broxton	(507)	Huxley	(253)
Bruen Stapleford..	(114)	Iddinshall	(14)
Burton-by-Tarvin ..	(41)	Kelsall	(874)
Burwardsley	(298)	King's Marsh	(63)
Caldecott.. ..	(42)	Larkton	(37)
Carden	(151)	Macefen	(65)
Chidlow	(13)	Malpas	(1101)
Chorlton-by-Malpas ..	(90)	Mouldsworth	(194)
Chowley	(61)	Newton-by-Tattenhall ..	(198)
Church Shocklach ..	(162)	Newton-by-Malpas ..	(13)
Churton-by-Aldford ..	(191)	Oldcastle	(84)
Churton-by-Farndon ..	(145)	Overton-by-Malpas ..	(98)
Clotton Hoofield ..	(382)	Pryor's Heyes	(111)
Clutton	(56)	Shocklach Oviatt	(149)
Coddington	(95)	Stockton	(20)
Cotton Abbots	(11)	Stretton-by-Malpas ..	(79)
Cotton Edmunds	(65)	Tarvin	(1251)
Crewe-by-Farndon ..	(47)	Tattenhall	(1008)
Cuddington-by-Malpas..	(236)	Threapwood	(279)
Duddon	(194)	Tilston-by-Malpas ..	(347)
Duckington	(65)	Tilstone Fearnall ..	(118)
Edge	(238)	Tiverton	(525)
Edgerley	(11)	Tushingham	(234)
Farndon	(560)	Waverton	(479)
Foulk Stapleford ..	(205)	Wigland	(104)
Golborne Bellow ..	(103)	Willington	(167)
Golborne David.. ..	(84)	Wychough	(16)
Grafton	(13)		

Vaccination Officer } R. E. Blyth, Oakdene, Tattenhall.
Registrar }

*This District is co-extensive with Tarvin Rural Sanitary District

MEDICAL OFFICERS AND PUBLIC VACCINATORS OF POOR LAW INSTITUTIONS.

BUCKLOW	Dr. H. Bowring, Knutsford.
CONGLETON	Dr. Henderson, Sandbach.
MACCLESFIELD	Dr. Clegg, Macclesfield.
NANTWICH	Dr. Johnstone, Nantwich.
NORTHWICH	Dr. J. W. Craw, Northwich.
RUNCORN	Dr. J. W. Crowther, Stretton.
TARVIN	Dr. H. L. W. Woodroffe, Chester.

REPORT OF THE County Medical Officer of Health

For the Year ended December 31st, 1939

Section I.-Area and Population

Area.

The acreage of the County at the end of 1939 was 622,746 acres.

Population.

The population of the Administrative County, as enumerated at the Census of 1931, was 665,575. The estimate of the Registrar-General for mid-1939 is:—

9 Municipal Boroughs	.....	.....	.....	289,660
24 Other Urban Districts	.....	.....	.....	287,290
10 Rural Districts	.....	.....	.....	162,450
				<hr/>
				739,400
				<hr/>

Full details will be found in Table C.

Rateable Value.

The rateable value of the Administrative County of Cheshire for General County Rate purposes at 1/4/39 was £4,836,719. A penny rate over the whole County represented the sum of £18,778 (estimated).

Section II.-Births and Deaths

The figures are for the Administrative County, 1939, unless otherwise stated.

Live Births :—

	Total.	Male	Female
Legitimate	10464	5480	4984
Illegitimate	353	189	164

Birth Rate per 1,000 of the estimated resident population, 14.62

	Total.	Male	Female
Stillbirths	479	248	231

Stillbirths Rate per 1,000 total (live and still) births, 42.4.

	Total.	Male	Female
Deaths	8966	4506	4460

Death Rate per 1,000 of population, 12.0.

The principal causes of death were as follows:—

Disease.	No. of Deaths.	Rate per million population.
Heart Disease	2701	3601
Cancer	1228	1637
Cerebral Haemorrhage	554	739
Pneumonia.....	365	487
Tuberculosis (all forms)	358	480
Pulmonary	287	390
Non-Pulmonary	71	90
Nephritis	243	324
Bronchitis	233	311

The deaths from the chief zymotic diseases were as follows:—

Disease.	No. of Deaths.	Rate per million population.
Diphtheria	74	99
Whooping Cough.....	10	13
Measles	4	5
Diarrhoea and Enteritis (under 2 years)	27	36
Scarlet Fever	7	9
Typhoid and Paratyphoid	5	7
Smallpox	Nil.	—

The zymotic Death Rate was .17 per 1,000.

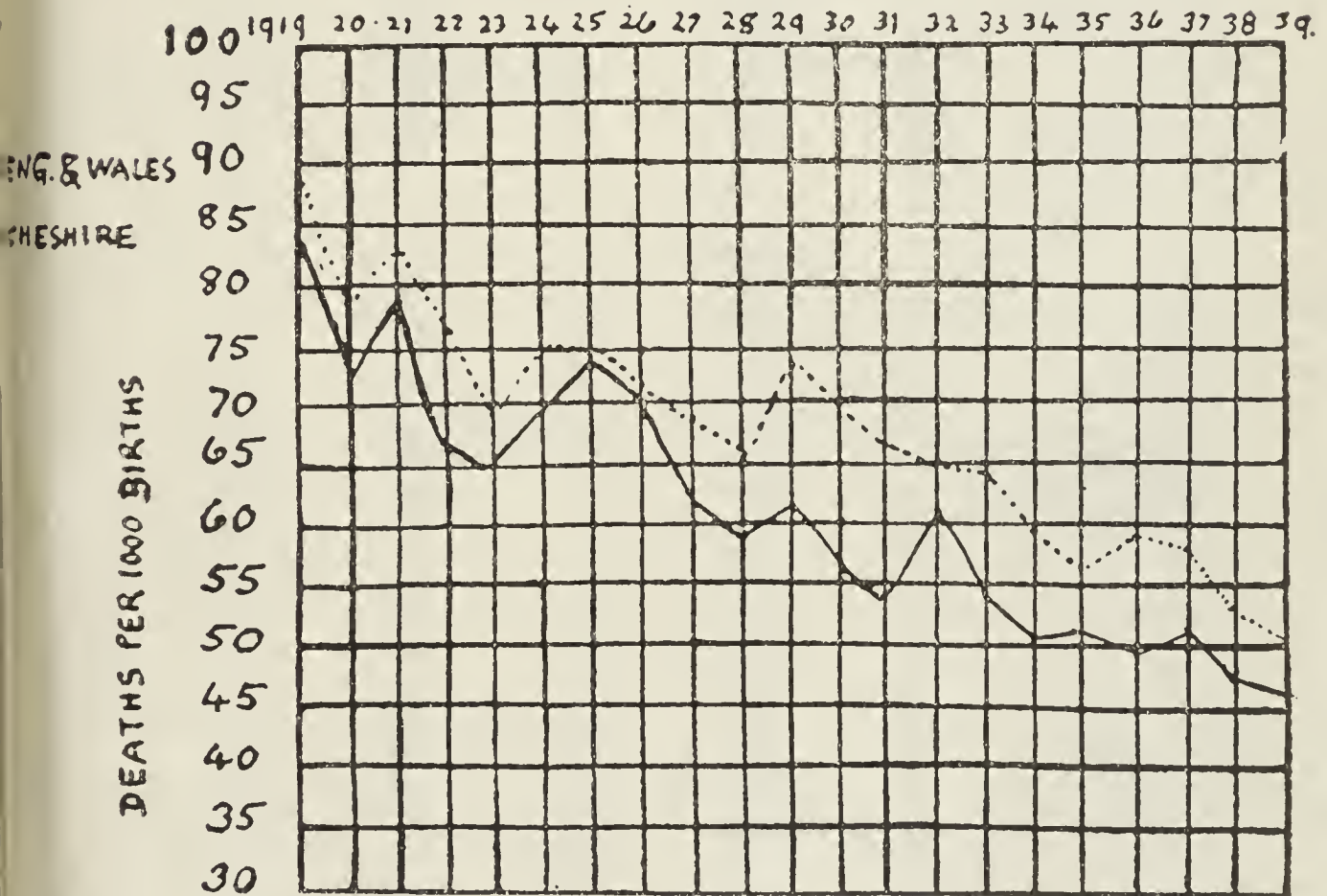
Infantile Mortality.

There have been 502 deaths of infants under 1 year in the Administrative County during 1939, i.e., 464 legitimate and 38 illegitimate. These figures show an infantile mortality as follows:—

All infants per 1,000 live births	46.3
Legitimate infants per 1,000 legitimate live births	44.2
Illegitimate infants per 1,000 illegitimate live births	107.3

The figures for recent years are shown in the following diagram:—

INFANTILE MORTALITY YEARS



Deaths from Puerperal Causes:—

	Deaths.	Rate per 1,000 total (live and still) births.
Puerperal Sepsis	6	.530
Other Puerperal Causes	22	1.943
Total	28	2.473

Section III.-Infectious Diseases, etc.

Number of Cases notified during 1939.

	Scarlet fever.	Diph- theria.	Enteric fever.	Pneu- monia.	Puerperal pyrexia	Ery- sipelas
Alderley Edge U.D...	3	2	—	—	—	—
Alsager U.D... ..	9	2	1	4	—	—
Altrincham M.B. ..	86	26	2	15	9	13
Bebington M.B. ..	126	114	47	22	2	5
Bollington U.D. ..	2	1	1	6	2	2
Bowdon U.D. ..	3	3	—	1	—	—
Bred. and Rom. U.D.	48	6	—	10	2	—
Cheadle and Gat. U.D.	25	29	—	14	6	8
Congleton M.B. ..	24	44	—	29	4	4
Crewe M.B.	45	26	—	4	6	6
Dukinfield M.B. ..	10	16	—	18	4	10
Ellesmere Port U.D.	89	66	4	17	4	9
Hale U.D.	13	3	2	2	—	2
Haz. Grove and Bram. U.D.	17	43	3	7	—	5
Hoole U.D.	57	35	2	13	—	—
Hoylake U.D. ..	106	75	5	4	—	3
Hyde M.B.	93	21	—	11	2	12
Knutsford U.D. ..	14	43	—	5	2	—
Longdendale U.D. ..	7	11	1	2	—	1
Lymm U.D.	10	—	—	—	—	1
Macclesfield M.B. ..	40	112	3	65	10	18
Marple U.D... ..	15	24	—	14	—	3
Middlewich U.D. ..	1	35	—	26	4	2
Nantwich U.D. ..	10	9	—	4	1	2
Neston U.D... ..	60	35	—	8	1	—
Northwich U.D. ..	94	13	1	12	5	4
Runcorn U.D. ..	21	75	—	16	1	3
Sale M.B.	77	19	2	9	3	8
Sandbach U.D. ..	59	73	—	3	—	11
Stalybridge M.B. ..	20	49	—	15	2	11
Wilmslow U.D. ..	15	42	3	8	4	—
Winsford U.D. ..	49	14	1	24	—	3
Wirral U.D.	27	39	—	8	—	1
Bucklow R.D. ..	1	9	—	2	—	—
Chester R.D... ..	53	46	3	18	1	12
Congleton R.D. ..	25	14	—	9	1	6
Disley R.D.	—	1	—	5	—	1
Macclesfield R.D. ..	11	19	2	12	1	3
Nantwich R.D. ..	17	19	—	21	1	1
Northwich R.D. ..	75	21	1	17	2	4
Runcorn R.D. ..	93	31	1	34	3	6
Tarvin R.D. ..	38	15	1	12	3	3
Tintwistle R.D. ..	1	6	—	—	—	—

There were no cases of Smallpox.

TABLE 1.—INFECTIOUS DISEASE OTHER THAN SMALLPOX.

Area	County Districts.	Hospital Authority.	Situation of Hospital.	Accommodation		
				Blocks	Wards	Beds
1	Sale M.B. Ald'ley Edge U.D. Hale U.D. Knutsford U.D. Wilmslow U.D. Bucklow R.D. Cheadle and Gatley U.D. Altrincham M.B. Bowdon U.D. Lymm U.D.	N. Ches. J.H.B. <i>a</i> Beds for Districts in Board's Area provided by agreement with Manchester except where indicated <i>b</i> Continues separate provision, also serves Bowdon <i>c</i> Agree. with Warrington	Monsall, Manchester Sinderland Rd., Altrincham. Warrington.	— 4 (As required).	— 8 (As required).	45 10 34
2	Hoole U.D. Tarvin R.D.	<i>d</i> Agree. with Chester, including smallpox	Sealand Rd., Chester.	— —	— —	4 <i>d</i> 8 <i>d</i>
3	Congleton M.B. Alsager U.D. Sandbach U.D. Congleton R.D.	Congleton and District J.H.B. <i>e</i> Includes Biddulph (6 beds)	West Heath, Congleton.	4	11	45 <i>e</i>
4	Crewe M.B.		Crewe.	4	12	40
5	Runcorn U.D.		Weston Rd., Runcorn.	2 (including 12 cots).	4	32
6	Runcorn R.D.		Preston Brook.	3	9	36
7	Hyde M.B. Dukinfield M.B. Stalybridge M.B. Bredbury and Romiley U.D. Hazel Grove and Bramhall U.D. Marple U.D. Disley R.D. Longd'd'le U.D. Tintwistle R.D.	<i>f</i> All other Authorities have made agreements with Hyde <i>g</i> Provisional agreement only. See also under Table 2.	Back Bower Lane, Hyde.	4	22	50*
8	Macclesfield M.B. Bollington U.D. Macclesfield R.D.	<i>h</i> The other two Authorities have agreements with Macclesfield M.B.	Moss Lane, Macclesfield.	4 (One cubicle).	10	66
9	Nantwich U.D. Nantwich R.D.	Nantwich J.H.B.	Alvaston, Nantwich.	3 (including 22 cots)	6	41
10	Middlewich U.D. Northwich U.D. Winsford U.D. Northwich R.D.	Northwich and District J.H.B.	Davenham.	4	12	50
11	Bebington M.B. Ell'm're P't U.D. Hoylake U.D. Neston U.D. Wirral U.D. Chester R.D.	Wirral J.H.B.	Clatterbridge.	6	15	105

* Shared with Denton, Mossley, Audenshaw and Ashton-u-Lyne, who are entitled to 20 beds

TABLE 2.—SMALLPOX.

Area	County Districts.	Hospital Authority.	Situation of Hospital.	Accommodation		
				Blocks	Wards	etc.
1	Sale M.B. Ald'l'y Edge U.D. Hale U.D. Knutsford U.D. Wilmslow U.D. Bucklow R.D. Altrincham M.B. Bowdon U.D. Cheadle and Gatley U.D. Lymm U.D. ^b	N. Ches. J.H.B. ^a ^a Beds for Districts in Board's Area provided by agreement with Manchester except where indicated ^b Agree. with Warrington	Clayton, Manchester. Warrington.	(As required)		
2	Congleton M.B. Alsager U.D. Sandbach U.D. Congleton R.D. Crewe M.B. ^c	Congleton and District S.P.J.B. ^c Contracts with Board for 6 Beds	Arclid, Sandbach.	2	2	12
3	Hoole U.D. ^d Tarvin R.D. ^d	^d Agree. with Chester	Sealand Rd., Chester.	(As required—see Table)		
4	Hyde M.B. ^e Dukinfield M.B. Bredbury and Romiley U.D. Hazel Grove and Bramhall U.D. Marple U.D. Disley R.D. Longd'd'le U.D. ^f Tintwistle R.D. ^f	^e All other Authorities (except Tintwistle and Longendale) have made agreements with Hyde ^f Hollingworth, Mottram and Tintwistle J.C.	Old Road, Hyde. Carrhouse Lane, Mottram.	2	6	8
5	Mac'sfield M.B. ^g Bollington U.D. Mac'sfield R.D. ^h	^g Provides for Bollington also ^h Agree. with Hyde	Moss Lane, Macclesfield.	1	2	6
6	Nantwich U.D. Nantwich R.D.	Nantwich J.H.B.	Ravensmoor, Nantwich.	1	2	6
7	Middlewich U.D. Northwich U.D. Winsford U.D. Northwich R.D.	Northwich and District J.H.B.	Marbury, Northwich.	3	9	5
8	Runcorn U.D. ⁱ Runcorn R.D. ⁱ	ⁱ Agree. with Warrington	Warrington.	(As required)		
9	Bebington M.B. Ellesmere Port Ell'm're P't U.D. Hoylake U.D. Neston U.D. Wirral U.D. Chester R.D.	Wirral J.H.B. ^j ^j Agree. with Liverpool	Liverpool Port Sanitary Hospital, New Ferry (and others in Liverpool).	(As required)		
10	Stalybridge M.B. ^k	^k Member of Ashton, etc. J.S.P.H.B.	Ashton-u-Lyne	(As required)		

* Shared with U. n.
Droylsden, St. ro
& Rochdale, w
entitled to 9 b
also under Arc

1 2 16
* For all infectious
(Priority to Sm

AMBULANCES.

All cases of infectious disease are dealt with by the ambulances attached to the various Isolation Hospitals.

Apart from infectious cases the following are the arrangements in force in the County (excluding A.R.P.):—

Altrincham Borough	Two motor ambulances.
Bebington Borough	One motor ambulance attached to Port Sunlight Hospital.
Congleton Borough	Two motor ambulances.
Crewe Borough	Three motor ambulances.
Dukinfield Borough	Make use of Hyde Police Ambulance.
Hyde Borough	Two motor ambulances.
Macclesfield Borough	Two motor ambulances
Stalybridge Borough	One motor ambulance.
Alderley Edge Urban	One Motor ambulance—Red Cross Society.
Alsager Urban	Have arrangement with Stoke and Newcastle for use of their ambulances.
Bollington Urban	Have arrangement with Macclesfield Corporation.
Bowdon Urban	One motor ambulance jointly with Hale.
Bredbury Urban	Arrangement with Hyde and Stockport Corporations.
Cheadle Urban	One motor ambulance has been provided by the District Council.
Ellesmere Port Urban	Two motor ambulances.
Hazel Grove Urban	Arrangement with Stockport Corporation.
Hoole Urban	Make use of ambulance from Chester Fire Brigade.
Hoylake Urban	One motor ambulance.
Knutsford Urban	Agreement with Altrincham.
Longdendale Urban	Arrangement with Glossop, Hyde, and Stalybridge.
Lymm Urban	Agreement with Altrincham.
Marple Urban	Arrangement with Stockport.
Middlewich Urban	The Urban District makes use of a private ambulance.
Nantwich Urban	Maintain a Red Cross Ambulance jointly with Rural area.
Neston Urban	Agreement with Birkenhead.
Northwich Urban	Imperial Chemical Co. provide their own. Use is made of a private motor ambulance.

Runcorn Urban	Council subsidise a private firm for the use of a motor ambulance.
Sale Borough	Two motor ambulances.
Sandbach Urban	An annual sum is paid for the use of a St. John's motor Ambulance.
Wilmslow Urban	One motor ambulance.
Winsford Urban	Two motor ambulances belonging to St. John's Ambulance Association and Winsford and District Ambulance Brigade. Council subscribe to each Brigade.
Wirral Urban	Have agreement with Birkenhead Corporation.
Bucklow Rural	Agreement with Altrincham.
Chester Rural	Make use of Chester ambulances.
Congleton Rural	Make use of Sandbach ambulances.
Disley Rural	Have services of Stockport ambulance
Macclesfield Rural	Agreement with Macclesfield Borough.
Nantwich Rural	Joint use of an ambulance with Nantwich Urban District.
Northwich Rural	Make use of the ambulances from Northwich and Winsford.
Runcorn Rural	One motor ambulance.
Tarvin Rural	Make use of Chester City Ambulances.
Tintwistle Rural.	Utilise the Hyde ambulance.

In addition the Standing Joint Committee pay an annual sum of £100 for the use of Chester City Ambulances within a 10-mile radius.

The ambulances at Clatterbridge County Hospital serve the districts from which patients are conveyed to that Institution.

Section IV.-Venereal Diseases

The following statistics are drawn up from the returns supplied by the treatment centres used by County patients in 1939:—

Institution.	Persons attending for first time at Out-Patient Clinic suffering from				Total attendances at Out-Patient Clinic.
	Syphilis.	Soft Chancre	Gonorrhœa.	Non-Venereal conditions.	
Ashton-under-Lyne Infirmary ...	20	—	23	24	1471
Birkenhead Hospital ...	10	—	15	18	1099
Chester Royal Infirmary ...	33	—	52	9	2159
Greenwich Dreadnought Hospital	—	—	—	1	29
Liverpool Seamen's Dispensary...	1	1	11	18	370
Liverpool Mill Road Infirmary ...	2	—	16	8	531
Liverpool Royal Infirmary ...	6	—	7	6	316
Manchester Ancoats Hospital ...	1	—	4	9	367
Manchester Monsall Centre ...	—	—	1	—	5
Manchester Skin Hospital ...	11	—	1	15	434
Manchester St. Luke's ...	7	—	44	14	3466
Manchester Royal Eye ...	13	—	—	1	519
Manchester Royal Infirmary ...	20	—	23	29	1964
Manchester St Mary's ...	2	—	9	12	237
Salford Boro' Hospital ...	3	2	16	44	1688
Southampton Clinic ...	—	—	—	1	7
Stockport Clinic ...	13	—	30	16	1684
Stoke-on-Trent Clinic ...	4	—	6	2	160
Stoke-on-Trent, North Staffs. Infirmary ...	6	—	22	10	1580
Warrington Infirmary ...	6	—	32	10	2978
TOTALS ...	158	3	312	247	21064

There is no clinic conducted by the County Council.

Examination of Specimens for Diagnosis

The following have been examined for private practitioners and Cheshire Hospitals at the University of Manchester Public Health Laboratory during 1939:—

	SYPHILIS.						GONORRHŒA.				Total Num- ber of Spec- imens
	Wasserman Reaction.				Spiro- chætæ.		Complement Fixation Test		Micro'pical Exam.		
	Blood.		C.S.F.								
	Total Exam	+	Total Exam	+	Total Exam	+	Total Exam	+	Total Exam	+	
1st Quarter	237	22	13	1	—	—	7	1	8	2	265
2nd „ ..	202	18	9	1	—	—	19	5	9	5	239
3rd „ ..	*186	25	6	—	—	—	5	1	9	2	206
4th „ ..	156	14	4	—	—	—	21	3	8	2	189
Totals ..	781	79	32	2	—	—	52	10	34	11	899

* Including 1 Kahn Test.

Section V.-Tuberculosis, etc.

Statistics

The annual tuberculosis returns for the Ministry of Health were in great part eliminated. For the sake of continuity, however, the main figures for the year under review and the two previous years are set out for comparison:—

	1939	1938	1937
New cases notified (primary)			
Pulmonary ...	432	525	502
New cases notified (primary)			
Non-pulmonary ...	277	277	297
	<hr/>	<hr/>	<hr/>
Total ...	709	802	799
	<hr/>	<hr/>	<hr/>
No of cases remaining on Registers of Notifications kept by District M.O's.H., December 31st. ...	4709	4433	4909
No. of Deaths from all forms of Tuberculosis ...	358	360	373
Death-rate from all forms of Tuberculosis per 1,000 of the population	0.48	0.49	0.52
New Applicants for Treatment	535	575	608
No. of Cases on Dispensary Registers, 31st December	4118	4215	3984

The following table shows the number of Insured (including Discharged Soldiers and Sailors) and Uninsured persons who have received treatment during the years 1930-39:—

YEAR.	INSURED.		UNINSURED.		TOTAL
	Males.	Females.	Males.	Females.	
1930	438	184	241	318	1181
1931	401	202	258	316	1177
1932	376	216	250	297	1139
1933	397	208	257	337	1199
1934	409	187	265	283	1144
1935	423	195	259	304	1181
1936	455	183	277	335	1250
1937	498	208	294	344	1344
1938	487	227	280	347	1341
1939	507	220	244	281	1252

Number of new applications for treatment under the County Tuberculosis Scheme during the years 1930-39:—

YEAR.	DIS- CHARGED SOLDIERS.	INSURED.	UNINSURED.	TOTAL.
1930	2	238	213	453
1931	—	224	192	416
1932	1	242	180	423
1933	—	273	255	528
1934	1	257	241	499
1935	—	267	231	498
1936	—	268	246	514
1937	1	309	298	608
1938	—	281	294	575
1939	1	306	228	535

Table relating to Tuberculosis in children under 16:—

Year.	Number of Children notified as suffering from Pulmonary Tuberculosis.	Number of Children notified as suffering from Non-Pulmonary Tuberculosis.	Percentage of Total Notifications.	
			Pulmonary.	Non-Pulmonary.
1930	36	201	6·6	65·5
1931	33	185	6·3	66·6
1932	40	170	8·3	63·0
1933	31	187	6·4	65·1
1934	22	175	4·6	65·1
1935	33	152	6·7	61·5
1936	26	167	5·4	61·2
1937	25	193	5·0	65·7
1938	32	185	6·1	66·8
1939	24	181	5·6	65·4

Beds Occupied.

The number of beds occupied in institutions other than the Cheshire Joint Sanatorium or Wrenbury Hall at 1st April, was as follows:—

Year.	Beds occupied.
1935	205
1936	206
1937	226
1938	229
1939	229
1940	175

Statement shewing number of patients who received institutional treatment during 1939:—

Institution	ADULTS		Child- ren under 16	Total	Average number of beds occupied	Average period in residen	
	Males	Fe- males					
SANATORIA.							Wks. D.
Cheshire Joint Sanatorium ..	209	167	—	376	116·47	16	
Wrenbury Hall ..	95	—	—	95	23·22	12	
Liverpool Sanatorium..	43	41	35	119	34·65	15	
Nab Top Sanatorium ..	—	5	9	14	4·32	16	
Total ..	347	213	44	604	178·66	15	
PULMONARY HOSPITALS.							
Ladywell Sanatorium ..	—	6	—	6	·93	8	1
Hyde Pavilion ..	93	—	—	93	25·93	14	4
Barrowmore Hall ..	1	—	—	1	·22	12	—
Baguley Sanatorium ..	4	7	—	11	3·78	17	6
Crewe Pavilion..	4	—	—	4	·78	10	1
Mount Pleasant Hospital ..	28	27	1	56	10·65	9	6
Hefferston Grange Sanatorium	27	20	—	47	17·22	19	—
Total ..	157	60	1	218	59·51	13	—
GENERAL HOSPITALS.							
Congleton War Memorial Hosp.	1	—	2	3	·24	4	—
Stockport Infirmary ..	—	1	—	1	·02	1	—
Albert Infirmary, Winsford ..	—	2	9	11	2·3	10	6
Ashton-u-Lyne Infirmary ..	7	2	5	14	·85	3	11
Macclesfield General Infirmary	2	2	11	15	1·02	3	4
Manchester Royal Infirmary ..	10	7	2	19	1·14	3	1
Altrincham General Hospital..	—	1	4	5	·64	6	4
Liverpool Royal Infirmary ..	1	—	—	1	·07	3	5
Royal Southern Hosp., Liv'pool	—	1	—	1	·02	1	—
Warrington Infirmary..	—	—	2	2	·04	1	—
Crewe Memorial Hospital ..	—	1	2	3	·09	1	4
Royal Liverpool (Heswall) ..	—	—	27	27	7·08	13	5
Salford Royal Hospital ..	1	—	—	1	·17	9	—
Northwich Infirmary ..	—	—	1	1	·05	2	4
Total ..	22	17	65	104	13·73	4	5
ORTHOPAEDIC HOSPITALS							
Leasowe Open-Air Hospital ..	—	19	58	77	39·51	26	5
Oswestry Orthopaedic Hospital	27	24	32	83	34·12	21	3
Hartshill Orthopaedic Hospital	6	3	5	14	2·39	8	6
Marple Children's „ „	—	—	4	4	1·69	22	—
Total ..	33	46	99	178	77·71	19	5
CONVALESCENT HOMES.							
Royal Alexandra Hospital, Rhyl	—	2	6	8	1·97	12	6
West Kirby Convalescent Home	—	—	5	5	·71	7	3
Total ..	—	2	11	13	2·68	10	1
SKIN HOSPITAL.							
Manchester and Salford ..	1	—	2	3	·43	7	4
TOTAL ALL INSTITUTIONS	560	338	222	1120	332·72	11	5

Table showing primary notifications and deaths from Tuberculosis since 1st February, 1913, when compulsory notification began in Cheshire.

Year	Primary notifications Form A		Deaths		Death rate per 1,000 population	
1913	..	1224	..	651	..	1.04
1914	..	1293	..	655	..	1.05
1915	..	1001	..	677	..	1.12
1916	..	999	..	677	..	1.18
1917	..	770	..	671	..	1.18
1918	..	770	..	744	..	1.35
1919	..	789	..	592	..	.98
1920	..	892	..	578	..	.92
1921	..	908	..	527	..	.83
1922	..	786	..	550	..	.86
1923	..	850	..	488	..	.76
1924	..	1016	..	512	..	.79
1925	..	883	..	510	..	.78
1926	..	939	..	489	..	.73
1927	..	892	..	488	..	.73
1928	..	932	..	499	..	.74
1929	..	917	..	465	..	.69
1930	..	838	..	438	..	.64
1931	..	802	..	438	..	.64
1932	..	751	..	460	..	.66
1933	..	754	..	389	..	.57
1934	..	765	..	377	..	.54
1935	..	739	..	367	..	.52
1936	..	752	..	348	..	.49
1937	..	799	..	373	..	.52
1938	..	802	..	360	..	.49
1939	..	709	..	358	..	.48

The 1939 deaths are made up as follows:—

	Male.	Female.	Total.
Pulmonary ..	180	107	287
Non-Pulmonary ..	42	29	71
	<hr/> 222	<hr/> 136	<hr/> 358

Death Rates, 1939.

All forms, .48 per 1000 of population.

Pulmonary, .39 per 1000 of population.

Non-Pulmonary, .09 per 1000 of population.

Summary of Notifications during the period from the 1st January, 1939, to the 31st December, 1939

Formal Notifications

Age Periods	Number of Primary Notifications of new cases of tuberculosis											Total (all ages)	Total Notifications
	0-	1-	5-	10-	15-	20-	25-	35-	45-	55-	65-		
Pulmonary Males	—	—	6	5	27	27	55	52	41	33	8	254	254
„ Females	1	—	9	3	33	30	45	25	13	10	9	178	254
Non-pulmonary Males	2	37	40	24	14	6	16	7	6	3	1	156	156
„ Females	2	24	32	20	9	10	12	4	6	1	1	121	156

SUPPLEMENTAL RETURN

New Cases of Tuberculosis coming to the knowledge of the Medical Officer of Health during the above-mentioned period, otherwise than by formal notification

Age Periods	0-	1-	5-	10-	15-	20-	25-	35-	45-	55-	65-	Total
Pulmonary Males	—	—	2	1	2	10	20	15	12	7	5	74
„ Females	1	—	1	4	4	12	17	14	3	3	2	61
Non-pulmonary Males	—	5	10	9	2	2	3	1	—	3	1	36
„ Females	—	3	4	8	1	1	3	1	—	3	—	24

The source or sources from which information as to the above-mentioned cases was obtained are stated below:—

Source of Information	No. of Cases	
	Pulmonary	Non-Pulmonary
Death { From Local Registrars	25	4
Returns { Transferable deaths from Registrar General	4	10
Posthumous notifications	3	3
“Transfers” from other areas (other than transferable deaths)	103	43
Other Sources	—	—

Orthopaedic Clinics

The following table shows the attendances at the Clinics (excluding those made for sunlight treatment only):—

Clinic	On registers 1/1/39	Admitted 1939	Dis- charged 1939	On registers 31/12/39	Attend- ances
Alderley Edge..	3	—	1	2	6
Altrincham ..	9	—	3	6	20
Chester ..	6	4	2	8	14
Congleton ..	11	3	1	13	214
Crewe ..	60	14	15	59	420
Ellesmere Port	8	3	2	9	22
Hoylake ..	2	—	—	2	31
Hyde ..	3	—	—	3	17
New Ferry ..	5	1	—	6	73
Runcorn ..	9	1	—	10	103
Stockton Heath	1	1	—	2	8
Total ..	117	27	24	120	928

Artificial Sunlight Treatment

The following table shows the attendances made at various clinics by tuberculous patients:—

Clinic	On registers 1/1/39	Admitted 1939	Dis- charged 1939	On registers 31/12/39	Attend- ances
Altrincham Hosp.	9	8	14	3	461
Chester Royal Infirmery ..	—	—	—	—	—
Crewe Hospital	2	2	4	—	82
Glossop Clinic..	—	—	—	—	—
Hyde Clinic ..	1	8	6	3	104
Macclesfield Infirm.	6	3	9	—	145
Manchester & Salford Skin Hospital	39	14	18	35	944
Northwich Clinic	19	12	22	9	1176
Sale Welfare Centre	2	—	2	—	28
Warrington Infirm.	3	6	6	3	205
Total ..	81	53	81	53	3145

COUNTY PUBLIC HEALTH LABORATORY.

Specimens examined in the County Public Health Laboratory during the year 1939, for:—

	Neg.	Pos.
Sanatoria.		
Wrenbury Hall	197	155
Borough Hospital, Hyde (Tuberculosis Pavilion)	130	116
Other Institutions.		
Clatterbridge Hospital	331	27
Lake Hospital, Ashton-under-Lyne	11	5
Dutton Institution	3	—
Altrincham General Hospital	1	—
Tarvin Institution	1	—
Bucklow Institution	7	3
Stepping Hill Hospital, Stockport	32	14
Macclesfield General Infirmary	22	—
West Park Hospital, Macclesfield	38	14
Crewe War Memorial Hospital	2	—
Victoria Memorial Hospital, Runcorn	1	—
War Memorial Hospital, Congleton	4	—
Albert Infirmary, Winsford	1	—
Victoria Infirmary, Northwich	2	—
National Children's Home, Frodsham	1	—
Cranage Hall, Holmes Chapel	1	—
Arclid Institution	1	1
Marple Orthopaedic Hospital	1	—
Cottage Hospital, Sale	1	—
Cottage Hospital, Knutsford	1	—
Port Sunlight Hospital	2	—
Districts outside the County.		
Widnes	1	—
Chester	2	—
Stockport	—	1
Birkenhead	1	1
Manchester	1	1

**Statement giving Particulars of
Specimens Examined in County Public Health Laboratory during the Years 1930 to 1939**

YEAR	From Patients for T.B..																		From Cows for T.B.		Milks examined by Reductase Test	Milks examined by Coliform Test	Total Number of Specimens examined.	Concentration Method Patients' Sputa.		Total Number of Examinations made.			
	Sputa		Urines		Glands		Pleural Effusions		Pus.		Effusion from Knee Joint		Hair for Ring-worm		Swab from Mouth		Fæces		Total	Milk				Sputa					
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.		Pos.				Neg.	Pos.		Neg.		
1930	560	1763	1	6	..	..	..	1	..	3	..	..	3	6	..	..	..	2	2346	..	..	..	..	..	..	2346	..	..	2346
1931	664	1926	..	4	..	..	..	1	1	1	..	..	48	69	..	..	..	4	2718	..	..	..	..	..	..	2718	..	..	2718
1932	647	1945	..	9	..	..	..	5	..	1	..	..	12	18	..	1	..	1	2639	132	276	25	2	..	..	3074	26	359	3459
1933	645	2097	..	5	..	..	..	3	..	4	..	..	13	19	..	..	..	8	2795	131	358	6	3	..	..	3293	15	336	3644
1934	637	1712	..	4	..	1	..	1	..	4	..	1	11	3	..	..	..	2	2375	104	425	13	4	..	..	2921	68	713	3702
1935	637	2058	1	9	..	2	..	..	1	4	..	..	3	4	..	..	..	2	2721	154	1011	35	21	..	..	3942	48	346	4336
1936	545	2086	..	4	..	..	..	4	..	3	..	..	..	..	..	..	..	2	2644	171	928	7	1	..	..	3751	27	611	4389
1937	577	2327	..	5	..	..	..	5	..	6	..	..	3	1	..	..	..	1	2925	185	892	7	4	..	..	9433	25	324	9782
1938	688	2333	..	8	..	..	..	3	1	6	..	..	..	1	..	..	..	3	3043	58	549	4	..	12088	12088	27830	62	277	28169
1939	602	2192	1	4	1	1	1	6	1	15	..	..	..	..	..	..	..	1	2825	28	1802	..	..	12354	12225	29234	19	41	29294

Total number of specimens examined during the year 1939:—

	Neg.	Pos.
Sputa for T.B. examinations (21.54% pos.)	2192	602
Pleuritic Specimens	6	1
Urines	4	1
Pus	15	1
Faeces	1	—
Glands	1	1
Milks, Bulk samples Microscopic Positive	1802	28
	<hr/> 4021	<hr/> 634
Total number examined	4655	
Concentration method Patients' Sputa	41	19
Total examinations (Microscopic) ...	4715	
Milks examined by Reductase Test ...	12354	
Milks examined by Coliform Test ...	12225	
Total number of examinations made ...	29294	

During the year 141 Bulk Milk samples were Biologically Tested for T.B. Of these 24 were Positive and 117 were Negative, showing a result of 17.02% Positive.

Section VI.-Maternity and Child Welfare

(By DR. JEAN R. SHAW).

Area

The County area, for the purpose of the Midwives Acts, comprises the whole of the Administrative County, but for Maternity and Child Welfare excludes the Boroughs of Altrincham, Bebington, Crewe, Hyde, Macclesfield and Stalybridge, also the Urban Districts of Ellesmere Port, Hale and Knutsford.

Midwives Act, 1936.

This Act has been in operation in the county for over two years and on the whole is working reasonably well. The aim throughout is to get the patients under competent midwifery before, during and after childbirth. In several instances the women themselves have not co-operated; though they have not booked any midwife, they have sent for one when in labour. No midwife likes being called to a case where she has had no opportunity of making the necessary preparations beforehand, and the woman is quite unknown to her as to physical condition and mental outlook. It is hoped that in the near future further education of mothers-to-be in their responsibility in using all the aids provided will make for fewer emergency cases.

Tribute must be paid to the splendid work being done by our midwives, and especially during the last four months of 1939, when their difficulties and trials were so much increased by the restricted lighting.

It is awe-inspiring to witness the wonderful confidence and reliance placed by patients in their midwives—this reacts on the conscientious midwife by making her more and more anxious to improve her knowledge and methods and give of her best to the trustful person who has put her own and her infants well-being under her care.

There are 69 midwives in practice under our County Scheme; this includes one county midwife in an urban area who had surrendered her certificate, but owing to the shortage of midwives was re-instated temporarily, permission having been granted for thus re-employing her. In addition, in two rather isolated areas arrangements have been made with two local midwives at a fixed salary for weekly off-duty time and holiday duty. Again in one borough owing to sickness among colleagues, and a rush of cases attributed to booking dates being a month out (either a month before or a month

later than reckoned on) extra midwives were employed to ensure county midwives having their off-time relaxation. It is felt that every effort should be made to ensure our midwives' off-time from week to week. In certain districts it may be found necessary when times are more normal and more midwives available to reconsider whether our present staff is adequate.

Engagement Books, Records, &c.

Each midwife has a special engagement book in which she enters under the various months her expected cases. She is not allowed to book more than 20 cases per quarter (80 per annum). On being engaged, she sends in a special form to the County Medical Officer of Health signed by the applicant with the following details:—Maternity case or midwifery case; Primipara or Multipara; fee to be charged; date of expected confinement. (Date of confinement is filled in by office staff from returns taken from record sheets). The fortnightly record sheets give details of cases visited, hours spent at cases, half days and week-end off duty, and relief duty done, etc. These returns, apart from other reasons, are very useful in showing how many hours a week a midwife is on duty and how the time is apportioned in ante-natal, puerperal and post-natal visits. A considerable amount of time must also be added to this for time taken in sterilising equipment and keeping records, etc.

Scale of Fees.

The fees charged are the same as in the previous year—the sterilised outfit for the labour, drugs, etc., has gone up in price but the Midwives Committee decided that the scale of charges is to remain the same, namely:—

Primiparae with or without a Doctor	45/-
Multiparae Do.	33/-

A booking fee of 5/- is charged on engaging a midwife, this amount to be deducted from the fee due on completion of the case.

In all cases where the husband is in receipt of unemployment pay (or transitional benefit) at the time of the confinement, and enquiries show there is no other income, no charge is made for the services of the midwife.

In cases where there is an inadequate income, the midwife sends to the County Medical Officer of Health a special form giving details of the family and its circumstances, and he is authorised to remit the whole or part of the fee at his discretion.

The midwives collect their fees themselves, and pay them into the bank on special duplicated pay-in slips.

Telephones.

Not only are telephones a great help to midwives in regard to their patients and to keep them in touch with their colleagues, but they are utilised many evenings throughout the year to get into intimate touch with those responsible for advising and helping them over some case or matter which is urgently requiring a solution.

Midwifery, perhaps, more than any profession is one which should not be embarked on unless one has a predilection for it, as it calls for so much self-sacrifice and self-control.

Assistant Supervisor of Midwives.

The Assistant Supervisor, who is not only highly qualified, but a practical midwife, pays quarterly visits to each county midwife, to inspect her bags, equipment, and books, to discuss cases and to go with her to them.

All midwives who are anxious to improve their methods and learn from a colleague who has devoted so much time to the practice and study of midwifery and is most anxious to help to solve their problems and remove difficulties that beset their path, welcome and look forward to these visits.

Number of Midwives in Practice.

There were 448 midwives who notified their intention to practise in the County Area during 1939.

County midwives	69
District Nursing Associations	113
Monthly Nurses)	
Independent midwives)	96
Midwives living outside the county area ...	25
Midwives surrendering certificates	16
Had no cases	38
In Institutions and Nursing Homes	90
Died	1

There were in addition 22 midwives who did temporary duty in various areas for district nursing associations.

Inspection of Midwives.

The independent midwives are inspected quarterly, district midwives are visited as a rule twice yearly as they are regularly supervised by their superintendent. During 1939 only one visit was paid to these owing to pressure of work during the last four months of the year when the second visit was due.

Total visits to midwives	459
Formal inspections	405
Enquiries re Stillbirths, Puerperal Fever, Pyrexia, and Neonatal Deaths	54

In addition the present assistant supervisor has paid 210 visits to midwives and with midwives to their cases (started duty August 21st, 1939). These are as follows:—

Inspection of midwives	118
Cases visited—	
Labours	7
Nursings	99
Antenatal	100
Postnatal	4

Details of County Midwives' Attendance at Cases.

LIVE-BIRTHS.			STILL-BIRTHS.	MIS-CARRIAGES.
With a Doctor.	Without a Doctor.	Total.		
1399	2262	3661	113	119

Some details of midwifery cases of above (cases going into Hospital before or during labour not included):—

- Primiparae, 27 per cent.; Multiparae, 73 per cent.
- Health during pregnancy—Good, 78 per cent.; Fair, 16 per cent., Poor, 6 per cent.
- Doctor called in (antenatal)—8 per cent.
- Normal Labours (no Doctor required; no laceration of perinaeum)—72 per cent.
- Perinaeum torn (this includes all cases, forceps, etc.)—16.5 per cent.
- Puerperium—93 per cent. normal; 7 per cent Pyrexia, etc.
- Infants—90.5 per cent. normal; 4 per cent. premature births; 3 per cent Stillbirths; 2.5 per cent. weakly, deformed, etc.
- Miscarriages occurred in 3 per cent. of booked midwifery cases.

Home Helps

During 1939 home helps have been provided in 170 homes. In 44 cases the income of the family was above the scale which permits this service to be granted free of cost—sums varying from 1/- to 2/- a day towards the help's daily wage were paid before the arrangements for engaging a home help were undertaken.

Midwives' Association

The Cheshire Midwives' Association (affiliated to the Midwives' Institution) had its fourteenth Annual Meeting in July, 1939, at the Chester Cathedral Parlour, when Mr. Percy Malpas, Ch.M., F.R.C.S., gave a very interesting address on Post—Natal Care. There was a very good attendance of midwives from all over the county.

It has been decided to carry on this Association during the war time with a minimum number of lectures at each branch as it was felt if it ceased to have any meetings it might be difficult to start it again.

Notifications received (Central Midwives Board Rules)

Medical Aid.	Still-Births	Laying out of the Dead.	Source of Infection.	Artificial Feeding.	Discharge from Eyes.
2583	... 69	.. 72	... 71	... 68	... 30

Puerperal Pyrexia, etc.

Fifty-three cases of Puerperal Pyrexia were notified during 1939. The day of onset varied from 1st to 20th.

Number of above cases proved to be Puerperal Fever	7
Cases already in Hospital notified as Pyrexia ...	7
Number of cases sent to Hospital for treatment Pyrexia	18
Puerperal Fever	4
Number of Deaths among notified cases	2

Disinfection of midwives in contact with these cases was carried out in 46 cases.

Midwives in contact with an infectious case (or themselves suffering from sore throat, colds, etc.) have had throat and nose swabs taken. They were allowed to return to duty when swabs proved to be negative.

Forty-three swabs were sent for examination.

(a) Throat—5 cases haemolytic streptococci present.
38 cases negative.

(b) Nose —2 cases haemolytic streptococci present.
41 cases negative.

In none of the seven cases were both throat and nose swabs positive.

Consultants

In 63 cases the advice and help of a consultant have been obtained for difficulties in labour or any abnormality during the puerperium.

Nursing and Maternity Homes

Number on the Register at the end of 1939 ...	45
Number of inspections during 1939	145
Number of new Homes registered	1

All the Nursing Homes have been inspected regularly except three which have had no cases and no prospect of any admissions. There have been 1,296 births in the above Homes and 629 medical and surgical cases during 1939.

Visits by the Health Visitors.

Under this section the work has been carried on during the first eight months as in previous years. During the last four months of the year, owing to Cheshire being a reception area for evacuees from Liverpool, Manchester, Stretford and Wallasey (school children, mothers with children under 5 years of age), it was not possible to carry on the usual visiting of the homes. School Clinics and Welfare Centres started for the evacuees and various billeting problems claimed most of the Health Visitors' time. Towards the end of 1939, with the departure of many of the evacuees, especially mothers and younger children, more home visiting was resumed.

During 1939 the number of visits to notified babies who are one year old has worked out at an average of 7 per child in urban districts and 7.5 per child in rural areas.

The following is a summary of the visits paid by the Health Visitors during 1939.

First visits to infants under one year	6,699
Revisits to children under 1 year	32,922
Revisits to children over 1 year	45,277
Visits to expectant mothers	1,819

The Method of Feeding Babies

The following table shows the method of feeding during the first six months of life of children over 6 months and under one year old. There were 849 rural cases and 2,051 urban cases.

End of	BREAST.					MIXED.					ARTIFICIAL.				
	1935	1936	1937	1938	1939	1935	1936	1937	1938	1939	1935	1936	1937	1938	1939
1st Month—															
Rural	...	71	71	70	65	66	2	2	2	3	27	27	28	33	31
Urban	...	71	73	70	67	70	3	2	1	3	26	25	29	30	27
2nd Month—															
Rural	...	68	68	63	62	63	4	4	3	4	28	28	34	35	33
Urban	...	67	69	66	64	64	4	4	2	4	29	27	32	32	32
3rd Month—															
Rural	...	63	63	57	55	54	5	6	5	4	32	31	38	41	40
Urban	...	62	64	59	58	53	7	6	5	4	31	30	36	37	38
4th Month—															
Rural	...	57	56	52	50	49	7	9	7	8	36	35	41	44	43
Urban	...	56	59	53	52	53	9	7	7	6	35	34	40	42	41
5th Month—															
Rural	...	54	54	47	44	46	8	9	8	9	38	37	45	48	45
Urban	...	53	54	50	50	50	11	10	8	7	36	36	42	43	43
6th Month—															
Rural	...	53	51	45	41	44	8	11	9	10	39	38	47	49	46
Urban	...	51	52	48	48	48	12	11	9	8	37	37	43	44	44

From the above table it is shown that at the end of 6 months 44 per cent. rural mothers and 48 per cent. urban mothers were feeding their infants naturally, 10 per cent. of rural mothers and 8 per cent. of urban mothers had insufficient breast milk and had to supplement with artificial food; 46 per cent. rural mothers and 44 per cent. urban mothers fed their babies with artificial food—this shows a slight improvement (3 per cent.) in the case of rural mothers and the same percentage in urban mothers compared with 1938. The results are disappointing as every effort is made by the staff to encourage natural feeding. Nowadays artificial feeding is so much easier than it used to be that many young mothers can not be persuaded to persevere with breast feeding.

Health of Infants

The method of feeding till 6 months old and health of children at 12 months old are shown below (4,854 children).

		Good.		Fair		Poor.	
		%		%		%	
Breast	{ Rural ...	84	...	14	...	2	
	{ Urban ...	84	...	14	...	2	
Mixed	{ Rural ...	80	...	17	...	3	
	{ Urban ...	83	...	14	...	3	
Artificial	{ Rural ...	79	...	17	...	4	
	{ Urban ...	74	...	21	...	5	

The illnesses from which children between one and two years of age have suffered during the 1st year of life are shown in the following table.

		Birth to 3 months.		3 months to 6 months.		6 months to 9 months.		9 months to 12 months.	
Total.		%		%		%		%	
Respiratory Diseases	... 8% ...	·5	...	1·5	...	2·5	...	3·5	
Convulsions	... ·1% ...	·02	...	·02	...	·04	...	·02	
Gastro-Enteritis	1·5% ...	·3	...	·3	...	·4	...	·5	
Measles	... ·8% ...	—	...	·1	...	·3	...	·4	
Whooping Cough	3% ...	·1	...	·4	...	1·0	...	1·5	
Marasmus	... ·5% ...	·3	...	·1	...	—	...	·1	

Feeding during first 6 months of life.

Feeding.	Health, 2 years; 4198 children.			Health, 3 years; 3955 children.			Health, 4 years; 3430 children.		
	Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.
Breast—	%	%	%	%	%	%	%	%	%
Rural ...	87	12	1	86	12	2	84	14	2
Urban ...	84	14	2	81	17	2	83	15	2
Mixed—									
Rural ...	80	18	2	79	18	3	82	17	1
Urban ...	76	20	4	77	18	5	78	18	4
Artificial—									
Rural ...	77	20	3	80	17	3	80	17	3
Urban ...	75	21	4	75	21	4	74	21	5

Some of the illnesses from which the above children have suffered are as follows:—

	2 years. %	3 years. %	4 years. %
Respiratory Diseases ...	3.5	3	2.5
Whooping Cough ...	5	5.5	5
Measles ...	2	3	3
Scarlet Fever ...	.3	.7	.6
Diphtheria ...	.1	.3	.4

Signs of Rickets were noted in 3 per cent. of the children between 1—4 years of age; 2.9 per cent. was slight and .1 per cent. was marked.

Stillbirths

The following table gives some particulars of 99 stillbirths (47 males, 52 females) which have been enquired into:—

Born before arrival ...	6
Prolapse of cord ...	2
Cord round neck ...	2
History of albuminuria ...	5
Ill-health of mother ...	13
Malpresentation or difficult labour ...	35
History of shock or accident ...	4
Antepartum haemorrhage ...	5
Placenta praevia ...	1
Malformation ...	9
Cause unknown ...	17

Thirty-eight of these cases occurred in first births. In 12 cases there was a previous history of more than one miscarriage or stillbirth and in 6 cases a history of one miscarriage or stillbirth. In 5 of these 6 cases the stillbirth occurred in second pregnancy so that 5 of these mothers concerned had not given birth to a live child; 11 of the mothers

had worked in a factory and 5 others had followed other occupations. Four of the above stillbirths were of illegitimate birth—3 were twin births and of the 6 children born 4 were stillborn and 2 survived.

Among the malformation cases there were 2 spina bifida cases and five anencephalic monsters. One of the spina bifida cases occurred in a first pregnancy and three of the monster cases occurred in first pregnancies. Of the 99 cases premature birth was recorded in 44 cases.

Neonatal Deaths

The following table gives particulars of deaths of 106 infants under one month old—66 males, 40 females. (75 per cent. occurred during first week, 15 per cent. in 2nd week, 9 per cent. 3rd week, 1 per cent. 4th week).

Premature Birth	31
Congenital malformation of heart ...	5
Atelectasis	3
Difficult Labour	9
Feebleness	15
Convulsions	7
Asphyxia	2
Malformations	18
Pneumonia	7
Bronchitis	2
Internal Hemorrhage	3
Jaundice	4

Six of the mothers of the above cases had been working in a factory during pregnancy and 5 others had followed other occupations. Six of the children were of illegitimate birth. Among the above there were 5 twin pregnancies (of the 10 infants 8 were neonatal deaths and 2 survived).

Malformations included 12 cases of spina bifida and one anencephalic monster. Seven of the spina bifida cases occurred in first pregnancies.

Ophthalmia Neonatorum, etc.

There have been thirty cases of inflammation of, or discharge from, the eyes of new-born babies. Eighteen of the cases were only slight. Twelve of the cases were notified as Ophthalmia Neonatorum. The following is a description of the cases:—

Slight cases—

One eye affected	5
Both eyes affected	13

Severe cases—

One eye affected	2
Both eyes affected	10

Eight of the severe cases were removed to hospital and four were attended by Health Visitors. All the cases made perfect recoveries.

Illegitimate Children

Special enquiries have been made into the circumstances of 60 illegitimate children born during 1939. In 35 cases the mother was employed. Fifty-four of the cases were found to be quite satisfactorily cared for (among them 4 were foster children and 3 were adopted), 3 only fairly satisfactorily attended to, and 3 children died. The father was known to be contributing in 15 cases; in 33 cases no such contribution was received; 6 of the parents were living together. Twenty-five of the babies were brought up by the mother, 19 principally by the grandmother and 5 by other relatives, one went into an Institution.

Maternal Mortality (per 1,000 live and stillbirths)

The maternal mortality rate for 1939 was 2.47, being .53 for puerperal sepsis and 1.94 from other causes.

Maternity and Child Welfare Centres

During 1939 three new centres were started, one at Frodsham, one at Greasby and one at Rode Heath. The first two are fortnightly centres and the one at Rode Heath is monthly. Rode Heath and Mow Cop are in the same district and visited by the same health visitor. Mow Cop Centre is on a hill and meets the needs of those mothers living in the hilly area; the Rode Heath Centre is supported by those who live at a lower level. The same committee very kindly helps to run both centres; on the second Wednesday of the month Mow Cop Centre is held and on the fourth Wednesday the Rode Heath Centre.

There are now 41 centres in the area under the Maternity and Child Welfare Committee and one voluntary centre. The latter centre is held fortnightly at Utkinton and is maintained by the daughter of the lady who originally started it. It is well attended and much appreciated by the mothers of the village and all the surrounding villages.

At most of the county centres the Health Visitor has the assistance of a voluntary committee. Each committee arranges a rota of members who attend on certain centre days. To all members of the voluntary committees very

cordial thanks are due—the faithful assistance they have rendered in the past year is specially appreciated.

A newly-built centre at Romiley was opened in April, 1939—the Romiley Voluntary Committee bought the ground for the centre, and when the centre was completed, they supplied furniture and equipment for it. This was a wonderful effort on the part of members of the committee and showed a great zest and enthusiasm, which is being emulated in other areas where voluntary committees are desirous of having premises specially for their use.

At Lymm, Nantwich, Northwich and Sale the Centre buildings have been converted into first aid posts and cleansing centres. During the conversion of the buildings the work of the Centres was temporarily interrupted, but has now been resumed.

From Runcorn and Frodsham, the only danger zones in Cheshire, expectant mothers and other mothers with children under 5 years of age were evacuated to Blackpool on September 2nd. Very few mothers or children went from Frodsham. Three county midwives were sent with the expectant mothers to assist the authorities in the reception area.

The antenatal clinic at Runcorn and centres at Frodsham and Runcorn were continued as usual but with very reduced numbers at Runcorn. Before the end of the year most of the evacuated mothers and young children had returned to their homes.

Attendance at Centres by Evacuees

Two new centres were started for evacuee children, one at Alderley Edge and the other at High Lane (Marple). In neither of these areas was there a Welfare Centre and local mothers who had attended the nearest centre took advantage of the more conveniently situated one. As many of the evacuee mothers and their children returned home, permission was granted (early in 1940) to allow these centres to be continued as county centres. At 32 other county centres evacuee children attended either at a separate session or at the usual session.

Number of evacuee children under 1 year who attended centres	677
Number of evacuee children between 1 year and 5 years who attended centres	574
Total number attending at the end of 1939—	
Under 1 year	137
1 year to 5 years	201

Cheshire Gold Cross Society

During 1939 the above Society had two meetings at Chester and one at Sale centre.

As explained previously, the object of the society is to bring together the voluntary workers of the various county child welfare centres to discuss difficulties arising in the work of the centres and to exchange ideas. The annual meeting was held at Chester Castle in May, 1939. At this meeting the work of the competitors in the annual competitions was on view and the shields and pictures won were presented by Alderman Mrs. Bromley-Davenport, Chairman of the County Maternity and Child Welfare Committee. The mothers and voluntary workers were very impressed by her inspiring address.

Tonsils, Adenoids and Ear Diseases

During 1939 a number of children under 5 years of age have had operations for enlarged tonsils and adenoids. Several cases were referred to the Welfare Centre by their own Doctor and arrangements were made for them to see the specialist and get his opinion as to the advisability of operation.

Dental Treatment

This is available for expectant and nursing mothers and children under 5 years of age. By arrangement with the Education Committee the work is undertaken by 12 school dentists. The Maternity and Child Welfare Committee pays the cost of one dentist and one nurse.

The following is a summary of the work carried out:—

No. of expectant or nursing mothers inspected	202
No. of expectant or nursing mothers treated	189
No. of children under 5 years of age inspected	365
No. of children under 5 years of age treated	336
No. of temporary extractions	509
No. of permanent extractions	515
No. of temporary fillings	50
No. of permanent fillings	49
No. of other operations	69
No. of attendances	531
No. of dentures fitted for nursing mothers	20

Free Milk Supplied

During 1939, 1,826 expectant mothers, nursing mothers and children have received free milk through the County's scheme for providing milk in necessitous cases. A pint or two pints per household per day or packets of dried milk

per week have been supplied for varying periods, according to the number of children under 5 years of age and circumstances of the family. Free milk is usually supplied to children under 3 years of age, but children between 3 and 5 years of age who have been ill or are badly nourished or anaemic, are allowed a pint a day.

Maternity Hospitals and Homes

During 1939 there have been 499 mothers who through the help of the County Maternity and Child Welfare Committee have had their confinements in a Maternity Hospital or Home. Only mothers who lack accommodation in their homes or in whose confinement some difficulty is expected have been eligible for this assistance.

The confinements have taken place in the following Institutions:—

	<i>Cases.</i>
Ashton-under-Lyne District Infirmary	13
Chester City Hospital	64
Crewe Maternity Home	25
Clatterbridge County Hospital	477
Hyde Maternity Home	7
Liverpool Maternity Hospital	17
Longton Cottage Hospital	29
Partington (Glossop) Maternity Home	2
Manchester St. Mary's Hospital	18
Macclesfield West Park	1
Sale Memorial Hospital	18
Warrington Borough (Victoria Park)	15
Widnes Maternity Home	5
	<hr/>
	499
	<hr/>

Maternity Homes for Evacuees

Expectant mothers from Wallasey were evacuated to Neston, and Stretford mothers to Bowdon. The former were billeted in private houses. At Bowdon arrangements were made to receive the expectant mothers and young children in one large house and two Municipal midwives were sent with them.

Two private houses, one at Neston (lent by the owner) and one at Bowdon (rented at a nominal figure) were acquired and converted into Maternity Homes. The necessary alterations took a considerable time, but thanks to the public-spirited action of the owners of three Nursing Homes (one in Heswall and two in Bowdon), in the interim, cases were attended to in these Homes. Twenty-six women were confined in the above Nursing Homes.

Early in November Southfields Maternity Home, Bowdon was opened and 12 births occurred there before the end of the year. The Garth Maternity Home, Neston, was ready about the same time but the cases had returned to Wallasey.

Some of the Wallasey births took place in Clatterbridge and three cases from Liverpool who had found their way to the Hoole District were admitted to Chester City Hospital.

Infant Life Protection

Number of Foster Parents on the Register ...	84
Number of Children on the Register	132

During 1939 these 132 children have been regularly visited by the Health Visitor within whose area the Foster Mother lives. As in previous years, with the exception of a few homes (4 in number) where several children are received the foster mothers have only one or two nurse children.

There have been no deaths and all children are being satisfactorily cared for.

Antenatal Clinics

There are four Antenatal Clinics in the county area. One of these (Hoole) has a monthly session, two have fortnightly sessions (Congleton and Sale) and one has a weekly session (Runcorn). Each of the Clinics is in charge of a specialist in Obstetrics. At each of the Clinics the midwives attend with their patients, are present at the examinations and help with the work of the Clinic.

		Number of Sessions	Number of Expectant Mothers	Number of Attendances
Congleton	.....	26	147	355
Hoole	.....	12	80	128
Runcorn	.....	52	312	1357
Sale	.....	19	134	335

At Dukinfield there is an arrangement that expectant mothers may attend the Antenatal Clinic at the Ashton-under-Lyne Infirmary. Thirty-four cases made 86 attendances during 1939.

Antenatal Scheme

This scheme came into force in 1933, and under it the expectant mother can be examined twice during her pregnancy by her own Doctor, who sends a full report of these examinations to the County Medical Officer of Health. The Doctor receives for his reports 10/6d. and 2/6d. for non-insured and insured cases respectively.

During 1939, 1,649 cases have been examined, an increase of 172 from the previous year.

Emergency Units

It has been arranged that a Flying Squad consisting of an Obstetrical Consultant and Sister (with all necessary equipment) should be available to give attention to any woman who might be too ill to move, e.g., case of post-partum haemorrhage requiring a blood transfusion. Two such cases were treated with good results in the past year.

Post-natal Scheme

Each County midwife visits her cases within 28 days of confinement and makes enquiries regarding any complaint of pain in pelvis or abdomen or any abnormal discharge, etc., and if necessary refers the case to the mother's own doctor. When the Health Visitors visit the mothers, they are to make similar enquiries and refer cases to the nearest clinic. If there is no clinic sufficiently near, the cases will be referred by the Health Visitor to the County Public Health Department and special arrangements will be made for their examination and treatment.

During 1939, 210 women have been examined at clinics and Hospitals and had the necessary treatment.

LIST OF INFANT WELFARE CENTRES.

Centre.	Weekly or Fortnightly.	Day of Centre.	Consul- tations held.	Average Attend- ances.	New Cases.	Total Attend- ances.
Alsager ...	Fortnightly	Tuesday	598	42	82	1054
Bollington ...	Fortnightly	Thursday	415	44	48	1199
Bowdon ...	Fortnightly	Thursday	644	30	37	803
Bredbury ...	Weekly	Tuesday	1190	48	138	2358
Cheadle ...	Fortnightly	Tuesday	662	56	160	1991
Cheadle Hulme ...	Fortnightly	Tuesday	478	53	103	1328
Congleton ...	Weekly	Monday	1446	47	150	2281
Disley ...	Fortnightly	Tuesday	383	25	41	637
Dukinfield ...	Twice weekly	Wednesday & Thursday	1755	70	201	7267
Frodsham ...	Fortnightly	Tuesday	203	34	53	486
Grappenhall ...	Fortnightly	Monday	535	57	43	1504
Greasby ...	Fortnightly	Tuesday	166	27	55	405
Haslington ...	Fortnightly	Tuesday	491	21	31	521
Hazel Grove ...	Weekly	Thursday	719	52	174	2570
Heswall ...	Fortnightly	Monday	276	69	183	1865
Hollingworth ...	Fortnightly	Wednesday	331	35	81	914
Hoole ...	Weekly	Tuesday	1155	51	243	3061
Hoylake ...	Weekly	Thursday	561	55	115	2752
Lymm ...	Weekly	Tuesday	847	52	80	2382
Malpas ...	Fortnightly	Monday	343	14	30	346
Marple ...	Weekly	Wednesday	990	50	74	2980
Marple Bridge and District ...	Fortnightly	Thursday	405	30	49	748
Middlewich ...	Weekly	Monday	1228	31	87	1527
Mobberley ...	Monthly	Tuesday	457	25	24	621
Mow Cop ...	Monthly	Wednesday	163	14	13	190
Nantwich ...	Weekly	Thursday	724	25	120	2381
Neston ...	Weekly	Thursday	470	63	80	3063
Northwich (Rural) ...	Weekly	Thursday	848	38	135	1922
Northwich (Urban) ...	Weekly	Tuesday	1069	42	162	2053
Partington ...	Fortnightly	Thursday	269	15	22	436
Poynton ...	Fortnightly	Thursday	427	46	44	1148
Rode Heath ...	Monthly	Wednesday	109	14	34	133
Romiley ...	Weekly	Thursday	899	27	63	1357
Runcorn ...	Twice weekly	Tuesday & Wednesday	1637	53	297	5031
Sale ...	Twice weekly	Monday & Thursday	2823	77	414	8019
Sandbach ...	Weekly	Tuesday	1098	36	114	1831
Stockton Heath ...	Fortnightly	Monday	514	47	62	1087
Tarporley ...	Fortnightly	Thursday	363	14	46	365
Utkinton ...	Fortnightly	Thursday	295	12	16	295
Weaverham ...	Fortnightly	Tuesday	440	31	93	774
Wilmslow ...	Weekly	Thursday	1147	68	166	3440
Winsford ...	Weekly	Friday	1332	32	137	1605

Artificial Sunlight Treatment.

The following table shows the attendances made at the various clinics by non-tuberculous patients:—

Clinic.	Patients at 1/1/39	Registered during 1939	Discharged during 1939	Patients at 31/12/39	Attend- ances at Clinics
Altrincham ..	—	1	1	—	30
Hyde Clinic ..	1	12	13	—	124
Northwich Clinic	6	3	8	1	237
Warrington Infirmery ..	3	3	5	1	71
Sale Welfare Centre	8	15	23	—	231
	18	34	50	2	693

Orthopædic Scheme

The Orthopædic Scheme includes treatment for all orthopædic conditions occurring in children under 5 years of age. During 1939 there were 1905 attendances of 310 patients (non-tuberculous) at the Clinics and 88 cases received institutional treatment.

The following table shows the attendances made at the various Orthopædic Clinics (excluding those for Sunlight only).

Clinic.	Patients at 1/1/39	Registered during 1939	Discharged during 1939	Patients at 31/12/39	Attend- ances at Clinics
Alderley Edge ..	10	5	—	15	49
Altrincham ..	27	21	7	41	233
Chester ..	7	4	4	7	26
Congleton ..	20	7	14	13	243
Crewe ..	36	29	25	40	168
Ellesmere Port ..	1	—	—	1	1
Hoylake ..	13	9	7	15	225
Hyde ..	2	2	2	2	5
New Ferry ..	4	2	2	4	6
Northwich ..	1	7	3	5	381
Runcorn ..	37	32	29	40	388
Stockton Heath..	17	17	10	24	180
	175	135	103	207	1905

Institutional Treatment

88 children received institutional treatment during 1939—42 boys and 46 girls. Of these, 24 were orthopædic cases, and 64 medical and surgical cases.

The following table shows the hospitals and clinics where treatment was carried out, and the conditions from which the children were suffering.

		Orthopaedic Hospital Harishill	Ancoats Hospital	Children's Hospital, Heswall	Hoylake Babies' Hospital	Hospital for Children, Leasowe	Children's Orthopaedic Hospital, Marple	Duchess of York Babies' Hospital, Manchester	Orthopaedic Hospital, Oswestry	West Kirby Convalescent Home	Total
Orthopaedic	Boys	3	2	5	21	4	..	2	3	2	42
	Girls	1	..	2	22	8	1	9	2	1	46
	Bow Legs .. .. .	..	..	..	1	..	..	..	..	..	1
	Club Foot .. .. .	..	..	..	..	1	..	..	..	..	7
	Hand Deformities .. .. .	..	..	..	..	2	..	..	..	..	1
	Hip, Cong. Dislocation .. .. .	..	..	1	..	..	..	..	..	..	2
	Osteomyelitis .. .. .	..	..	..	..	..	..	..	..	..	1
	Poliomyelitis	2	..	..	3	3	1	..	1	..	3
	Rickets .. .. .	..	..	..	..	..	..	..	2	..	9
	
Various Medical and Surgical	Acrodynia .. .. .	..	..	..	1	1	..	2	..	..	2
	Adenitis, Cervical .. .. .	..	..	..	3	..	..	..	..	..	2
	Anaemia .. .. .	..	..	1	..	..	..	..	..	..	4
	Birthmark .. .. .	..	..	..	..	..	..	1	..	..	1
	Bronchitis .. .. .	..	..	..	2	..	..	..	..	..	2
	Bronchiectasis .. .. .	..	..	..	..	1	..	..	..	..	1
	Catarrh, Bronchial .. .. .	..	..	1	..	..	..	..	..	..	1
	Cleft Palate .. .. .	..	..	..	..	..	..	2	..	..	2
	Debility .. .. .	..	..	2	7	..	..	..	..	2	11
	Dyspepsia .. .. .	..	..	..	5	..	..	1	..	..	6
	Eczema .. .. .	..	..	..	..	1	..	1	..	..	1
	Empyema .. .. .	..	..	..	2	..	..	..	..	..	1
	Enteritis .. .. .	..	..	..	..	..	..	..	..	..	2
	Haematomesis .. .. .	..	..	..	..	..	..	1	..	..	1
	Heart (Congenital) .. .. .	..	..	..	5	..	..	1	..	..	1
	Malnutrition .. .. .	..	..	2	9	1	..	..	..	..	5
	Marasmus .. .. .	..	..	..	..	..	..	1	..	..	12
	Perthes Disease .. .. .	..	..	..	..	..	..	..	..	..	1
	Pneumonia .. .. .	..	..	..	1	..	..	1	..	..	1
	Premature Birth .. .. .	..	..	..	..	..	..	1	..	..	1
	Pyloric Stenosis .. .. .	..	..	..	1	..	..	1	..	..	1
	Tonsillitis .. .. .	..	..	..	1	..	..	..	..	1	1
	Underweight .. .. .	..	..	..	3	..	..	..	..	..	4

Section VII.

Milk (Special Designations) Order, 1936

At the time of this report there were 3105 Accredited Milk Licences and 70 Tuberculin Tested Licences in force in the County.

The following is a summary of the work carried out during 1939, in order to comply with the Milk and Dairies Orders and the conditions required for an Accredited Milk Licence.

Dairy.

Steam sterilizer provided—

Pressure type	130
Chest over copper	48
New dairy constructed	49
Dairy divided to form separate cooling room	17
Dairy adapted from an existing building	26
Dairy improved	12
New cowsheds provided	28
New cowsheds converted from existing buildings	7

Work carried out to existing shippens.

Remodelled internally	69
New floors laid	38
New standings provided	5
Cement dado provided	63
Lighting improved	122
Ventilation improved	26
Loft floor removed or raised	11
Proper manure dump provided	1
Drainage improved	6

The number of inspections carried out in connection with the Accredited Milk Scheme, are as follows:—

New applicants	346
Re-inspections (New applicants—Work in progress)	288
Routine re-inspections	902
Other visits	195
Interviews	35
Probable applicants	88

The importance of continued and regular supervision of licensed farms in addition to sampling of milk is shown by the conditions found from time to time. It will be appreciated that it is better to have any unsatisfactory condition remedied as a result of a routine inspection than to wait until a series of unsatisfactory samples draws attention to a particular farm.

The present system of routine re-inspection of licence holders is designed to provide the maximum assistance to the farmer. Advice and help is given at these re-inspections which has, I think, been greatly appreciated, particularly in connection with the efficient use and maintenance of milking machines, bottle washing plant and steam sterilizers.

During the year an important step forward in the production of clean milk was taken by the Milk and Dairies Committee's adoption of a resolution requiring all new applicants for an Accredited milk licence to provide suitable and sufficient means of steam sterilization for milk utensils. On farms which carry over 12 head of milk cows a pressure boiler feeding the sterilizing chest is required while on the smaller farms which carry less than this number of beasts a wooden zinc lined or galvanized iron steam chest over a small set boiler or portable copper is the standard insisted upon. In no case is the domestic washing copper accepted for the washing and steaming of milk utensils for obvious Public Health reasons.

The improvement in the standard of shippens and dairies at farms in the County has continued and I am pleased to be able to report that the greatest co-operation exists between the County staff responsible for the work and the local Sanitary Inspectors.

Section VIII.-Food and Drugs Acts.

The Chief Inspector of Weights and Measures (Mr. Stacey Hallard) reports as follows:—

On the 1st October, 1939, the Food and Drugs Act, 1938, came into operation and as from that date the Food and Drugs (Adulteration) Act, 1928, was repealed. The new Act, described as an Act to consolidate, with amendments, certain enactments relating to food, drugs, etc., has nevertheless made far-reaching changes in administration in certain areas of Cheshire.

Under the 1928 Act there existed (apart from the four County Boroughs) five Food and Drugs Authorities, i.e., the County Council, and the Municipal Borough Councils of Congleton, Hyde, Macclesfield, and Stalybridge. Because of the 1938 Act the position to-day is that the County Council is the Food and Drugs Authority for the whole of the administrative County of Cheshire with the exception of the Municipal Borough of Crewe.

The effect of this change has been to bring under the jurisdiction of the County Council, for Food and Drugs purposes, an additional population of over 59,000.

Officials of the Weights and Measures Department have, as hitherto, been appointed Authorised Officers and Sampling Officers under the new Act so that continuity has been maintained in the administration of such an important measure.

As to the work itself, a total of 1658 samples of all classes of foods and drugs were obtained during the year and submitted to the Public Analyst for analysis. Of this number 901 were samples of milk either taken from retailers or obtained from farmers at the time they were delivering milk to one or other of the numerous milk factories in Cheshire. 97 of these milks were certified as adulterated or failing to reach the standard laid down in the Sale of Milk Regulations. This figure does not signify wilful tampering with the milk in each case, as in over half the samples the deficiency was due to some abnormality in the condition of the cows. In some of the less serious instances caution letters were issued but others were of such a serious nature that legal proceedings had to be instituted. Particulars of these latter are as follows:—

A farmer supplied a milk factory with milk containing 7.1 per cent. of extraneous water. The Magistrates at the hearing dismissed the case with the comment that even after such dilution the milk contained 3.2 per cent. of fat.

A similar case of milk containing 7.2 per cent. of extraneous water being sampled "in course of delivery" to another factory resulted in a fine of £3 and £2 1s. 6d. costs.

After the sale, by a retailer, of milk containing added water, the Inspector tried to obtain a sample of the milk as it was being delivered to the retailer by the producer's son. The son refused to allow the Inspector to take a sample and instead of handing the milk over to the retailer he (the son) took the milk back to his father's farm. The Inspector followed and obtained a sample at the farm; this was found to contain 31.2 per cent. of extraneous water. The farmer was prosecuted for adding water to the milk and the son for refusing to allow a sample to be taken; each man was fined £5.

Milk sold by a retailer contained extraneous water. The following morning the Inspector took a sample "in course of delivery" from the farmer to the retailer. This contained 7.2 per cent. of extraneous water and the farmer was subsequently ordered to pay £2 3s. 7d. costs. The retailer was not proceeded against.

A sample obtained from a retailer in the street was certified as containing 3.1 per cent. of extraneous water. On the case going before the Magistrates it was dismissed without comment.

Another purchase made in the street was found to be deficient in fat to the extent of 42 per cent. The excuse given was that the milk had been stored in a refrigerator all night and the cream had risen; failure of the retailer to stir the milk had caused the deficiency. The Magistrates dismissed the case under the Probation of Offenders Act and ordered the defendant to pay £4 8s. 0d. costs.

Another case of failure to keep milk stirred was dismissed under the Probation of Offenders Act on payment of £1 5s. 0d. costs. This concerned a sample served from a tap at the bottom of a tankard; it was found to be 38.3 per cent. deficient in fat.

Two churns of milk were being delivered to a Dairy Company and the Inspector took a sample from each churn; they were found to contain respectively 4.0 per cent. and 4.7 per cent. of extraneous water. Two summonses were issued against the farmer and he was fined £2 10s. 0d. and £1 1s. 0d. costs in each case—a total penalty of £7 2s. 0d.

A sample of milk taken "in course of delivery" from a farmer to a Dairy Company contained 28.8 per cent. of extraneous water. He was fined £5 and ordered to pay 10/6d. costs.

A retailer, stopped in the street, was found to be selling milk deficient in fat to the extent of 18.3 per cent. He was subsequently fined 10/- for the offence.

Samples taken from each of four churns being delivered by a farmer to a Dairy Company were found to contain 9.0 per cent., 11.2 per cent., 9.4 per cent. and 9 per cent. respectively of extraneous water. He was summoned on four counts and fined a total of £10 together with £4 11s. 6d. costs.

Another farmer, who had previously been fined for selling milk below standard, was caught delivering milk containing 25 per cent. of extraneous water to a Dairy Company. On this occasion he was fined £5 and 10/6d. costs as against the previous conviction of £2 and £1 11s. 6d. costs.

A bottle of milk, purchased from a retailer, contained 3.6 per cent. of extraneous water; he was subsequently prosecuted and fined £5 and ordered to pay £1 11s. 6d. costs.

The same amount of water (i.e. 3.6 per cent.) was found in milk being retailed in the street. As usual a sample was obtained from the cows on the following morning and this proved to be genuine. In spite of this, the magistrates, holding the view that the original sample was sold in the same condition as given by the cows, dismissed the case.

A sample taken from a milk float and found to contain 2.3 per cent. of extraneous water resulted in the case being dismissed under the Probation of Offenders Act but the retailer was ordered to pay £3 3s. 0d. costs.

A fine of £1 and £1 11s. 6d. costs was imposed on a retailer who sold milk which contained 9 per cent. of extraneous water.

Finally, a sample taken from a milk float and certified by the Public Analyst as containing 6.5 per cent. of extraneous water resulted in a penalty of £3 1s. 0d. in fine and costs.

As to samples other than milk, of the 757 obtained, only eleven were found not to be of the recognised quality or purity. These comprised six samples of cream cakes, two of sausages, one each of Phenol Ointment, Sal Volatile and Ammoniated Tincture of Quinine Tablets.

The following summary explains the action taken in connection with these samples:—

The six samples of cream cakes actually concern only three shopkeepers. In the first case a "test sample" had been purchased unknown to the trader and the analysis proved the "cream" portion of the sample to consist of fat foreign to butter fat. Acting on this information another purchase was made and the shopkeeper asked if the cakes contained "dairy cream." A reply in the affirmative was given and the shopkeeper was then informed that the cakes had been purchased for analysis by the Public Analyst. The sample, needless to say, did not contain dairy cream and at the subsequent Police Court hearing the Justices ordered the defendant to pay 10/6d. costs.

In the second case a "test" purchase was made of cakes displayed in a shop window and labelled "cream savoyes." Here again the analysis proved them to be filled with an artificial substance which was not real cream. Another purchase was arranged and the purchasing agent asked the shopkeeper if the cakes contained "real cream." The shopkeeper replied "Oh yes." The Public Analyst subsequently certified the "cream" portion to be composed of fat foreign to butter fat. A summons was accordingly taken out and the shopkeeper was fined 10/- and 10/6d. costs.

The third and last case was on similar lines, after the usual "test" purchase had proved that the cakes contained something other than cream the agent buying the "formal" sample enquired if the cakes exposed for sale contained "real cream." On being informed that they did, he purchased a quantity and the subsequent analysis proved that they did not contain real cream. The seller was prosecuted, the Justices imposing a fine of £2 and 10/6d. costs.

The two sausage samples were both from the same shop, in the first place a "test" purchased disclosed the presence of 85 parts per million of undeclared Sulphur dioxide and accordingly a corresponding "formal" sample was obtained; this contained 74 parts per million of such preservative. As no declaration of the presence of a preservative had been made the trader was prosecuted and fined £1 with 10/6d. costs.

Full particulars of the remaining non-standard samples, i.e., Phenol Ointment (containing only 4/5ths of the amount of Phenol prescribed by the British Pharmacopoeia), Sal Volatile (13 per cent. deficient in Total Ammonia), Ammoniated Tincture of Quinine Tablets (16 per cent. deficient in quinine sulphate) were sent to the Cheshire Insurance Committee for any action they considered it desirable to take.

In conclusion it is interesting to note that taking into account all classes of samples, 6.5 per cent. were certified as non-standard; whereas the figure during 1938 was 5.4 per cent. This slight increase is accounted for by the very large number of milk samples which failed to reach the legal standard. Apart from milk it is undoubtedly true that the quality of food on sale in Cheshire is remarkably good.

Section IX. Mental Deficiency

Particulars of Mental Defectives as on 31st December

A. Number of Cases "Subject to be dealt with":—

1. Under "Order":—

		1939			1938		
		M.	F.	T.	M.	F.	T.
(a) (1) In Institutions (excluding cases on Licence)—							
Under 16 years of age ..	31	25	56	27	29	55	77
Aged 16 years and over ..	127	137	264	121	124	244	244

(2) On Licence from Institutions—

Under 16 years of age ..	—	—	—	—	—	—	—
Aged 16 years and over ..	7	6	13	8	4	1	1

(b) (1) Under Guardianship (excluding cases on Licence)—

Under 16 years of age ..	—	—	—	—	—	—	—
Aged 16 years and over ..	1	2	3	1	2	—	—

(2) On Licence from Guardianship—

Under 16 years of age ..	—	—	—	—	—	—	—
Aged 16 years and over ..	—	—	—	—	—	—	—

2. In "Places of Safety":—

Under 16 years of age ..	—	1	1	2	—	—	—
Aged 16 years and over ..	2	1	3	2	1	—	—

3. Under Statutory Supervision .. 439 403 842 445 411 85

4. Action not yet taken under any of the above headings:—

(a) Notified by Local Education Authorities (Sec. 2 (2))	—	—	—	—	—	—	—
--	---	---	---	---	---	---	---

(b) Mental Defectives in receipt of Poor Relief:—

(1) Institutional—

(a) In Public Assistance Institutions not approved under Sect. 37 ..	30	47	77	45	45	9	9
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(b) In Institutions certified under the M.D. Acts (including those approved under Sect. 37)—

(1) Cases "placed" under Sec. 3	—	1	1	—	—	—	—
---------------------------------------	---	---	---	---	---	---	---

(2) Other Cases	—	—	—	—	—	—	—
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(2) Domiciliary	54	56	110	56	59	11	11
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B. Number of Cases who may become "Subject to be dealt with":—

(1) In Institutions or under Guardianship—dealt with under Sec. 3:—

(a) In regard to whom the Local Authority contributes under its permissive powers	1	2	3	1	2	—	—
---	---	---	---	---	---	---	---

(b) Maintained wholly by parents, relatives or others	25	11	36	24	11	3	3
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(A number of cases may not be known to us.)

(2) Reported to the Local Authority from any reliable source, but as to whom no action has been taken	—	—	—	—	—	—	—
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(3) Under Voluntary Supervision	—	—	—	—	—	—	—
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Ascertainment

The methods of ascertainment are the same as in previous years. Every effort is made to obtain particulars of all mental defectives in the County. Health Visitors, District Nurses, Relieving Officers, Head Teachers, parents and various officials report cases, and all persons whose work makes defectives known to them are well aware of the Authority to which information should be supplied.

Provision of Institutional Accommodation (Excluding Cases on Licence) at 31st December

	1939			1938		
	M.	F.	T.	M.	F.	T.
<i>Institution for Defectives provided by the State—</i>						
Hampton State Institution, Retford	—	1	1	—	1	1
<i>Institution provided for Defectives by Cheshire Joint Board—</i>						
Crangage Hall	73	106	179	71	105	176
<i>Institution provided for Defectives by other Local Authority—</i>						
Calderstones (Lancashire Mental Hospitals Board)	3	—	3	3	—	3
<i>Other Certified Institutions for Defectives—</i>						
Esford Court, Worcester	1	—	1	1	—	1
Penryntrey Colony, Bristol	2	—	2	1	—	1
Howecot, Knotty Ash, Liverpool	—	2	2	—	2	2
Willibrand Hall, Chorley	—	1	1	—	2	2
Mary Dendy Home, Sandlebridge, Alderley Edge	28	19	47	28	17	45
Princess Christian's Farm Colony, Hildenborough, Kent	—	1	1	—	1	1
Royal Albert Institution, Lancaster	6	7	13	6	7	13
Royal Earlswood Institution, Redhill	1	—	1	1	—	1
St. Raphael's Colony, Brentford	1	—	1	1	—	1
Stoke Park Colony, Stapleton, Bristol	12	5	17	8	4	12
Winton Home, Manchester	—	3	3	—	3	3
Whittington Hall, Chesterfield	—	2	2	—	2	2
<i>Certified Public Assistance Institutions—</i>						
Arclid House, Sandbach (Cheshire C.C.)	27	7	34	24	7	31
The Lodge, Caersws (Montgomeryshire C.C.)	2	3	5	2	3	5
Seaford House, Seaforth (Lancashire C.C.)	2	1	3	2	1	3
Wiston House, Birkenhead	—	4	4	1	—	1
Total	158	162	320	149	155	304

Guardianship

At the 31st December, 1939, there were 3 cases under Guardianship, as compared with 3 at the end of 1938. All necessary care is exercised in the approval of Guardians, and in suitable cases the provisions of Section 30 (e) of the 1913 Act have been utilised.

Supervision

Statutory supervision is carried out by the County Health Visitors, who visit each case several times during the year and report quarterly on their visits. There were 842 cases so supervised at 31.12.39, compared with 856 at 31.12.38.

Occupation Centres and Home Training

There are no occupation centres in the County, which is mainly rural in character.

No provision has been made for Home Training.

Licence, Discharge and After-Care

At the end of 1939 there were 13 cases on licence from Institutions and none on licence from guardianship as compared with 12 and none at 31.12.38. The care exercised in the selection of cases and regularity of visitation has resulted in the success of the Council's policy under this heading.

Two cases who had been on licence from an Institution were discharged during the year under review.

They remained under the care of the persons to whom they had been licensed.

Section X.-Welfare of the Blind

General

The requirements of the Blind Persons Acts, 1920-38, are met by the Council in its revised Scheme for the Welfare of Blind Persons, dated May, 1931. The provisions of this Scheme are executed, subject to the general administrative supervision of the Blind Persons Inter-Sub-Committee of the Council, by the Blind Welfare Societies at Chester, Ashton-under-Lyne and Macclesfield, which receive annual grants in accordance with the Scheme of the Minister of Health under the Local Government Act, 1929. The closest co-operation is maintained with these Societies, and the various services rendered by them continue to be entirely satisfactory.

Certification

To ensure that no person's name is placed on the register without the certificate of a medical practitioner with special experience in ophthalmology, all applicants are examined by the County Oculist, Dr. W. Dunlop Hamilton. Those who wish may be examined a second time under the Medical Referee Service—conducted jointly with the Northern Counties Association—by independent Medical Referees.

Statistics

Number of Registered Blind Persons in the County at
31st March

			1940	1939
Under 5 years .. ..	..	..	6	4
5—16 years .. ..	..	..	13	17
16—21 years .. ..	..	..	22	24
21—40 years .. ..	..	..	94	97
40—50 years .. ..	..	..	116	129
50—65 years .. ..	..	..	288	274
65—70 years .. ..	..	..	143	149
70 years and over ..	..	..	413	396
Unknown age .. ..	..	..	10	7
Total .. ..	..	..	1105	1097

Registered Blind Persons in County employed, or otherwise,
at 31st March

			1940	1939
Employed	{	in Workshops & Work-rooms	21	16
		as Home workers ..	23	36
		variously	17	30
Unemployable .. ..	..	..	1011	973

Workshop Employees

Annual grants were made at the rate of not exceeding £52 a year to recognised Workshops for Cheshire employees. From 1.4.39 a "minimum wage" principle of 35/- weekly was adopted for 2 approved female employees at Henshaw's, their income being made up to that amount. There were 4 Workshop employees at the end of 1939.

Home Workers

The three voluntary societies arrange for the employment at home of those capable of it and for augmentation of their earnings by up to 5/0d. weekly. Further augmentation of 10/- weekly was given by the Council to all County approved Workers, who numbered 32 at the end of 1939.

Homes Residents

Annual grants in accordance with the Local Government Act Scheme are paid to several organisations, subject to the same services continuing to be rendered on behalf of Cheshire residents in Homes for the Blind: additional capitation grants of £13 a year are made for new entrants, whose maintenance charges are also paid by the Committee if necessary. At the end of 1939, there were 7 Cheshire residents being so maintained in the Homes of the Manchester and Salford Society and 5 in the Homes of Henshaw's Institution.

National Library for the Blind

Grants at the rate of £40 a year were made in 1939 to the National Library for the Blind on behalf of 2 Cheshire Home Workers who were Blind Copyists for its northern branch, apart from the usual annual grant for general services, which are used by over 100 Cheshire residents.

Other Services

The usual annual grants were continued in 1939 to the National Institute for the Blind and the Northern Counties Association for their respective national and regional services.

Wireless Certificates

143 Certificates entitling the recipients to a free wireless licence were issued in 1939 to applicants on the register.

Necessitous Blind

The unemployable are naturally by far the largest part of the registered blind population, and many of them are in need of financial help. In its Scheme under the Local Government Act, 1929, the Council made a declaration that all domiciliary assistance to necessitous blind persons should be henceforth provided by virtue of the Blind Persons Act and not as Poor Relief. The Council's revised Scheme for Domiciliary Assistance, dated April, 1938, provided that the weekly income of every adult registered blind person be increased where necessary to 25/-, and that of a married blind couple to between 30/0d. and 45/0d., according to circumstances, and that such persons might be eligible for extra grant on account of dependants.

In 1939 grants were made by the Blind Persons Inter-Sub-Committee in 154 cases, and withheld in 21. Grants reported as ceased numbered 182.

At the end of the calendar year 1939, there were 602 weekly grants so made to blind persons in the County.

At the end of the financial year 1939-40, there were 602 weekly grants so made to blind persons in the County.

Section XI

Public Assistance Institutions, etc.

Works carried out at Institutions during 1939

No normal work of major importance was carried out during 1939 at any of the County Public Assistance Institutions, owing to the conditions prevailing during that period on account of the war. As a matter of urgency, an extension of the Central heating arrangements was carried out at Nantwich Institution to the Male House Block.

The Government up-grading scheme of certain Public Assistance Institutions came into operation, including the erection of Government Wooden Hutments at Arclid and Nantwich.

CANCER

For the treatment of Cancer generally, patients who consult their own doctors and can afford the cost of treatment (or get recommends) go to the larger Hospitals offering facilities in Liverpool, Manchester, Stockport, Birkenhead, Chester and Warrington.

For those who appeal to the local authority for treatment the following arrangements are in force.

(1) *Provided by the Local Authority—Clatterbridge County Hospital.*

Here Radium and Operative treatment are carried out but there are no facilities at present for deep X-Ray Therapy. Cases requiring such treatment are referred to the Radium Institute, Liverpool, from the Hospital. It is intended that when the extensions to Clatterbridge Hospital are completed such treatment will be available there.

(2) *By agreement with other Hospitals—(Public Assistance Committee).*

(a) Manchester Christie Hospital and Holt Radium Institute

(b) Chester Royal Infirmary

Arrangements are in force for Radium, Operative Treatment and Deep X-Ray Therapy at both the above Hospitals.

The following figures show the number of deaths from Cancer in the County area for the last ten years.

	Aggregate of		
	Urban Areas.	Rural Areas.	Total.
1930	717	306	1023
1931	734	307	1041
1932	770	332	1102
1933	772	305	1077
1934	795	219	1014
1935	863	275	1138
1936	904	266	1170
1938	660	270	930
1939	1004	224	1228

Section XII.

Clatterbridge (County) General Hospital

(By D. WILKIE, M.D., F.R.C.S., *Medical Superintendent*).

General.

This year has been characterised by the steady progress of the extensions and by the manifold effects of several A.R.P. schemes. The former may be dismissed at once as mud and workmen everywhere. It is a disappointment that by the end of the year only a small part of the extensions had been put into use. I refer to the New Lecture Room for the Training School. This has had to be used as extra ward accommodation, the Annexe having been demolished in October. The A.R.P. schemes have consisted of (a) the measures for the protection of the hospital, (b) the use of the hospital as a store and issuing department for medical and surgical supplies for the county, (c) the allocation of the hospital in the Merseyside Emergency Hospital Scheme as a base hospital for Birkenhead and Wallasey Casualty Receiving Hospitals, and as a casualty receiving hospital for its normal county area.

(a) Most of the buildings have now sandbag ramparts, and no further sandbagging is intended. Three Steel Shelters have been provided, each with accommodation for 50 persons; these are situated beside the new kitchens, beside the laundry and beside the nurses' home. I do not think it will be practicable to use these for protection of patients. Fire fighting appliances have also been obtained. The staff has had courses of A.R.P. instruction from Mr. Crapper. Curtains and blinds have been provided throughout, and much ingenuity has been called for from Mr. Speakman and his staff to make the blackout adequate and yet retain adequate ventilation in the wards.

(b) Large quantities of medical and surgical stores have been sent to the Hospital by the Government. Many of these have now been distributed throughout the County on instructions from Dr. Mackay. This work has entailed very much extra work on the Dispenser especially, without whose help indeed it could have scarcely been done, and also on Miss Tilston and Mr. Holbert and their staffs, among whom, one of the Porters now on Active Service, Mr. Williams, calls for special mention.

(c) Emergency Hospital Service. At the outbreak of war, the Group Officer appointed by the Ministry of Health instructed us to return as many patients to their homes as possible, to send thirty chronic patients to other institutions, and to receive about ninety patients from Birkenhead and Wallasey Hospitals which were being emptied to receive casualties. The net result of this was that about 200 beds were occupied with patients. Admissions were to be restricted as much as possible, so that the last quarter of the year shows a very marked reduction in these. Hence the relatively small increase in the admissions for 1939, over those for 1938. The restriction on admissions was later gradually relaxed. In connection with this scheme, the Government supplied a large number of bedsteads and mattresses.

Patients.

The patients treated in the Hospital are as last year from all parts of the County, and about the same proportion came from areas beyond the Wirral. Besides these, admissions include the cases from Birkenhead and Wallasey Hospitals to which I have referred; a number of evacuees; and a growing number of military patients. These last two groups have suffered chiefly from skin diseases and simple ailments. The numbers will be found in the statistical appendix. The War has increased the difficulties due to the great distances patients are often brought, through the blackout. The strain on the Ambulance Drivers, Mr. Jones, Mr. Bailey and Mr. Christopher has at times been very heavy. Further efforts have been made during the year to increase the comforts for patients, by the provision in B Block of lights for each bed; and these wards have also been redecorated. Details of the medical and surgical work done for patients can be found in the statistical appendix. It will be noted that more patients have been admitted. There were 292 deaths. Of these, no less than 83 were over 70; while cancer accounts for another 45 in persons under the age of 70. These cancer cases have almost entirely been in a hopelessly incurable condition on admission, and have been sent us simply for nursing. This remark applies also to the great majority of the deaths classed as due to diseases of the nervous and circulatory systems. It is gratifying to be able to record that no deaths occurred this year following operations here for appendicitis.

Maternity.

This work too continues to increase. The County scheme has now been in operation throughout the year. Its effect has been chiefly to increase the proportion of abnormal cases dealt with: hence the increase in the number of still-births. The mortality and morbidity rates have been satisfactorily low; almost surprisingly so in view of the overcrowding which at times prevails. As happened last year, no case which had attended the County's Ante-Natal Clinics died.

Children's Ward.

Some alterations have been made in this ward. Cubicles have been supplied to lessen the chance of unsuspected infection spreading in the ward. Earlier in the year troublesome outbreaks of measles and whooping cough had occurred; there have been no further outbreaks since the cubicles were erected. No cases of diphtheria have occurred in the ward this year. The policy of swabbing all children admitted has been continued. It is somewhat disappointing to note how little advantage parents take of the various schemes for immunisation against diphtheria. Our records show that only 11 per cent. of the children between the ages of 12 months and 12 years have been either immunised or proved non-susceptible.

Mental Patients.

The number of these patients admitted is similar to last year. They oblige us to employ six watchers the whole year round.

Staff.

Few changes have been made this year. The chief one perhaps concerns the hours of duty of the nursing staff. This is a matter to which the Inter-departmental Committee on Conditions in Nursing Services were paying great attention immediately before the outbreak of war. Some reduction in the hours of duty has been effected, but it is quite impossible at present to attain the 48 hours' week recommended. Indeed it seems highly probable that hours will have to be increased again. We have, however, been fortunate so far in that few of the nurses have been called up. Replacement by trained staff is practically impossible. On the other hand, extensive use has been made of the hospital by various district committees in charge of the training of the civil nursing reserve. In a number of cases, women after completing the fifty hours hospital training prescribed by the Government scheme have offered to continue working at the Hospital and have proved very helpful.

Male Staff.

The following men have been called up and are on active service:—

Mr. K. Fowden	Porter Williams
Mr. E. Fowden	Porter Higginson
Male Nurse Hill	Duncan Hughes
Male Nurse Lamén	(Joiner's Apprentice).
Theatre Orderly Marsh.	

Hutted Hospital.

In conclusion, reference must be made to the hutted hospital which is being erected by H.M. Office of Works for the Ministry of Health. Nine huts are being built on the Hospital land on the opposite side of the Clatter Brook from the County Hospital. They are to accommodate about 300 patients. The kitchen and laundry services for these huts are to be provided from the County Hospital.

Statistics.

The total number of admissions to the Hospital (including births) was 3,146. This was an increase of 309 over the number in 1938. Discharges numbered 2,905, and there were 292 deaths. Still-births numbered 37. The number of Military cases admitted was 44, and the number of transfers from other hospitals was 93, Evacuees 44.

Operations

OPERATIONS OF STOMACH AND INTESTINES

Gastrectomy	3
Gastrostomy	1
Gastroduodenostomy	—
Repair to ruptured Peptic Ulcer	16
Rammstedt	1
Appendix Operations	121
Colectomy	2
Colostomy	5
Caecostomy	4
Intestinal Anastomosis	3
Laparotomy for other conditions	14
Operations on Rectum	2
Haemorrhoids	10
Operations for Hernia	51

OPERATIONS ON THE BILIARY PASSAGES

Cholecystectomy	11
Cholecystostomy	1

OPERATIONS ON THE GENITO-URINARY SYSTEM

Nephrectomy	.....	.....	.....	.....	1
For perinephric abscess	.....	.....	.....	.....	1
Prostatectomy (open)	.....	.....	.....	.....	5
Trans Urethral Prostatectomy	.....	.....	.....	.....	3
Supra Pubic cystotomy	.....	.....	.....	.....	13
Hydrocele	.....	.....	.....	.....	5
Operations on the Urethra	.....	.....	.....	.....	7
Circumcision	.....	.....	.....	.....	20
Oophorectomy	.....	.....	.....	.....	5
For ectopic gestation	.....	.....	.....	.....	5
Hysterectomy	.....	.....	.....	.....	9
Hysterotomy	.....	.....	.....	.....	—
Dilatation and Curettage	.....	.....	.....	.....	30
Perineorrhaphy, Colporrhaphy, Trachelorrhaphy	.....	.....	.....	.....	17
Miscellaneous	.....	.....	.....	.....	20
Caesarean Section	.....	.....	.....	.....	9

OPERATIONS ON EAR, NOSE AND THROAT

Mastoid Operations	.....	.....	.....	.....	22
Myringotomy	.....	.....	.....	.....	9
Sub mucous resection of nasal septum	.....	.....	.....	.....	4
Removal of Polypi	.....	.....	.....	.....	1
For Tonsils and Adenoids	.....	.....	.....	.....	40
Other	.....	.....	.....	.....	2

OPERATIONS ON THE EYE

Cataracts	.....	.....	.....	.....	8
Strabismus	.....	.....	.....	.....	8
Others	.....	.....	.....	.....	9

Radical Operations on breast	.....	.....	.....	.....	5
Local Incision of breast	.....	.....	.....	.....	1
Innocent Tumours	.....	.....	.....	.....	7
Thyroid	.....	.....	.....	.....	7
Empyema Thoracis	.....	.....	.....	.....	10
Incisions of abscesses	.....	.....	.....	.....	54
Curettage of Sinuses	.....	.....	.....	.....	7
Phrenicectomy	.....	.....	.....	.....	1
Blood Transfusions	.....	.....	.....	.....	18
Skin Graft	.....	.....	.....	.....	3
Dissection of cervical glands	.....	.....	.....	.....	3
Radium	.....	.....	.....	.....	2
Miscellaneous minor operations	.....	.....	.....	.....	49
Bronchoscopy	.....	.....	.....	.....	3
Cystoscopy	.....	.....	.....	.....	14
Oesophagoscopy	.....	.....	.....	.....	4
Sigmoidoscopy	.....	.....	.....	.....	6

OPERATIONS ON LOCOMOTOR SYSTEM

Open reduction of fractures	.....	.....	.....	6
Removal of semi-lunar cartilages	.....	.....	.....	1
Compound fractures	.....	.....	.....	3
Sequestrectomy	.....	.....	.....	1
Operations on Tendons	.....	.....	.....	7
Major Amputations.....	.....	.....	.....	—
Osteotomy	.....	.....	.....	1
Laminectomy	.....	.....	.....	1
Manipulation and/or application of Plaster	.....	.....	.....	39
Other	.....	.....	.....	13
Total				765

Maternity

Total number of Confinements	.....	.....	.....	477
Total number of first confinements	.....	.....	.....	201
Total number of still births	.....	.....	.....	37
Total number of instrumental deliveries	.....	.....	.....	39
Total number of live births	.....	.....	.....	444
Number of Caesarean sections	.....	.....	.....	9
Number of minor operations	.....	.....	.....	98
Number of cases of Albuminuria	.....	.....	.....	69
Ante Natal cases admissions	.....	.....	.....	187
Ante Natal visits and examinations	.....	.....	.....	789

PRE-NATAL CLINIC

Year	Total No. Patients	Total No. Attendances	Average attendance per week	Average attendance per patient
1937	133	599	11.5	4.5
1938	159	668	12.9	4.2
1939	187	789	13.1	3.2

MASSAGE DEPARTMENT

Number of treatments	.....	1938	1,628	
		1939	1,721	
Number of patients, plus Maternity patients	.....	.....	.....	.....
		1938	236	+ 400 Maternity
		1939	242	+ 437 Maternity

X-RAY DEPARTMENT

Number of Radiographs taken	.....	2,184
Skull	.....	150
Spine	.....	101
Chest	.....	888
Abdomen	.....	339
Limbs	.....	587
Teeth	.....	8
Gall Bladder and Kidney	.....	65
Others	.....	46

DENTISTRY

Extractions	.....	189
Fillings	.....	59
Examinations	.....	60

OUT-PATIENT DEPARTMENT

(a) No. of persons attended 861
 Total No. of attendances 3,034

(b) There is no Venereal Disease Clinic, but 2 treatments following discharge from hospital, were given.

TABLE 1

Classification of In-patients who were discharged from, or who died in the Institution during the year ended 31st December, 1939

Disease Groups					Children under 16		Men & Women.	
					Dis- charged	Died	Dis- charged	Died
A.	Acute Infectious Disease	..	..	..	7	—	10	—
B.	Influenza	..	..	..	1	—	7	—
C.	Tuberculosis							
	(1) Pulmonary	..	..	..	1	—	28	10
	(2) Non-Pulmonary	..	..	..	2	—	7	2
D.	Malignant Disease	..	..	..	—	—	49	33
E.	Rheumatism.							
	(1) Acute Rheumatism (Rheumatic Fever) together with sub-acute Rheumatism and Chorea	..	..	..	6	—	7	—
	(2) Non-articular manifestations of so-called Rheumatism, (Lumbago and Sciatica)	..	..	..	—	—	6	—
	(3) Chronic Arthritis	..	..	..	—	—	32	—
F.	Venereal Disease	..	..	..	6	—	5	1
G.	Puerperal Pyrexia	..	..	..	—	—	19	—
H.	Puerperal Fever							
	(a) Women confined in hospital	..			—	—	1	—
	(b) Other cases	..	..	..	—	—	1	—
I.	Other diseases and accidents connected with pregnancy and child birth	..	..		—	—	174	—
J.	Mental Diseases (a) Senile Dementia	..			—	—	2	—
	(b) Other	..	..	..	2	—	46	2
K.	Senile Decay	..	..	..	—	—	15	2
L.	<i>Accidental Injury and Violence</i>	..	..		44	3	212	23
	<i>In respect of cases not included above</i>							
M.	Disease of the Nervous System and sense Organs	..	..	..	63	10	118	34
N.	Disease of the Respiratory System	..	..		41	12	103	23
O.	Disease of the Circulatory System	..	..		4	1	95	51
P.	Disease of the Digestive System	..	..		111	7	347	25
Q.	Disease of the Genito-urinary System	..	..		27	—	182	25
R.	Disease of the Skin	..	..	..	42	—	34	1
S.	Other Diseases	..	..	..	63	15	130	11
T.	Mothers and Infants discharged from Maternity Wards and not included in above figures	..	..	..	433	1	412	—
U.	Persons not falling under any of the above headings (Healthy Babies)	..	..		10	—	—	—
Totals					863	49	2042	243

TABLE 2
COMPARATIVE STATEMENT OF PROGRESS

	1937	1938	1939
Resident Medical Staff	3	4	4
Trained Nurses	25	26	26
Probationers	54	59	59
Male Nurses (3) also Theatre Orderlies (2)	5	5	5
No. of Confinements	409	458	477
Total No. of admissions.. ..	2268	2837	3146
Total No. of discharges	2018	2510	2905
Average No. Patients in Hospital	253	266	215
No. of Beds provided	291	291	441
No. of X-Rays taken	1131	1743	2184
Bacteriological and Pathological work (specimens)	2009	3981	5222

IN-PATIENT DISCHARGES

1937	71.6% of discharges were in hospital under 4 weeks 7.4% exceeded 13 weeks.
1938	72.6% of discharges were in hospital under 4 weeks 7.3% exceeded 13 weeks.
1939	73.2% of discharges were in hospital under 4 weeks 7.1% exceeded 13 weeks.

OUT-PATIENT DEPARTMENT.

1937	661 persons attended	Total No. of attendances	1876
1938	580 persons attended	Total No. of attendances	1921
1939	861 persons attended	Total No. of attendances	3034

Section XIII.-Water Supplies.

The County as a whole is well served as regards public water supplies and it is gratifying to note that improvements are still being carried out. These may be summarised as follows:—Boreholes are being sunk at Eaton, near Tarporley, by Crewe Corporation, at Frodsham by Warrington Corporation, and at Peckforton in the Tarvin Rural district by Staffordshire Potteries Water Board. These works when completed will, in addition to providing water for the respective undertakings, also afford supplies to those parts of the County through which the trunk mains pass to their main centres of distribution.

Macclesfield Corporation have completed the sinking of two boreholes within the borough and have obtained powers for the construction of pumping plant and a new covered service reservoir. The completion of these works will meet the growing demands of the borough and the adjacent rural parishes which are supplied under agreement.

A small scheme has been sanctioned for the parishes of Eaton and North Rodé (Macclesfield Rural District) and this work is in progress.

Bollington Urban District Council have completed improvements costing £11,000 including additional reservoirs and distribution mains.

Bredbury and Romiley Urban District Council have now abolished the unsatisfactory private supply at Compstall which has been replaced by Stockport Corporation water.

Sanction of the Ministry of Health has been obtained by Tarvin Rural District Council for a part of their comprehensive scheme of water supply. A connection has been made with the Liverpool main at Beeston for the purpose of supplying the village of Tattenhall, which is a reception area for evacuees.

During the year a complaint was received which serves to illustrate the advantages to be gained by the inter-connection of local authorities' distribution mains. Several householders residing near the boundary of a rural district were not receiving adequate pressure and were frequently without any water, although it was pointed out that adjoining houses which were situated in another local authority's district had a good supply. A short connecting main between the two services was all that was required to remedy the shortage.

One of the disadvantages of separate water undertakings for local government units, more especially in rural areas, lies in the fact that their distribution systems have usually been planned to coincide with the needs of one particular district, with little consideration for the existing or potential requirements of adjoining districts. Large water mains radiating from the source of the supply gradually reduce in size to one or two inch diameter service pipes near the district boundary. The outlying areas on the fringe of the distribution system are usually the first to suffer in the event of a reduction in pressure caused by increased consumption in another part of the district.

The report of the Cheshire and North-west Derbyshire Regional Advisory Water Committee, issued in June, 1939, states:—

- I. Considering the Region as a whole it is expected that over the next ten years there will be a gradually increasing demand with a surplus above estimated requirements, although individual deficiencies are anticipated.
- II. It may perhaps be found that the deficiencies could in some cases be met by the formation of Joint Water Boards, or by arrangements for authorities who have a surplus to give a supply to adjacent authorities who are deficient.
- III. The problems of water supply in the region are chiefly problems of co-ordination and distribution of supplies from known internal sources rather than the finding of important new sources outside.

The findings of the Regional Advisory Water Committee in paragraph II merely confirm the previously expressed opinion of two consulting engineers, a consulting geologist and a financial adviser who were appointed by the County Council in 1935 to report on the water supplies in Mid-Cheshire, and again in 1938 on the water supplies in East Cheshire.

Attention was first called to the desirability of establishing Joint Water Boards in the Annual Report for 1932.

Notwithstanding the recommendations contained in these reports no agreement has been reached by the four Mid-Cheshire local authorities as regards the amalgamation of their respective water undertakings and the proposed formation of a Water Board. In December of this year Northwich Rural District Council completed the deepening of their

Eddisbury borehole which has remained undeveloped since it was sunk in 1935. A scheme for the construction of a pumping station and reservoir is being prepared for submission to the Ministry of Health.

It remains to be seen whether the Ministry is prepared to sanction further expenditure in perpetuating separate water undertakings in Mid-Cheshire in the face of expert advice to the contrary.

Examinations of Public Water Supplies

Records supplied by local authorities shew a lack of uniformity in the number of samples of public water supplies submitted for examination. In cases where statutory undertakers supply water in county districts the local authorities concerned are usually content to leave the statutory undertakers to make periodical examinations which are carried out weekly or fortnightly.

Several local authorities owning their own water undertakings have not tested their public water supplies more than once, twice or three times during the year. One urban authority failed to make any such examination.

The frequency of examinations will, naturally, depend on the nature and source of the supply but, as a general rule, quarterly examinations should be regarded as the minimum.

The County Analyst is prepared to carry out periodical tests, both chemical and bacteriological, for local authorities.

MUNICIPAL BOROUGHS

ALTRINCHAM

Number of inhabited houses (end of 1939) according to rate books	11,327
Rateable value	£300,470
Product of 1d. rate	£1,183

The borough is within the statutory limits of supply of Manchester Corporation Water Undertaking. Only a few isolated farms and cottages are without mains water.

BEBINGTON

Number of inhabited houses (end of 1939) according to rate books	12,569
Rateable value	£341,377
Product of 1d. rate	£1,325

The borough is adequately supplied, under statutory powers by the West Cheshire Water Board. Sixty-one samples were examined during the year, all of which were satisfactory.

CONGLETON

Number of inhabited houses (end of 1939) according to rate books	4,444
Rateable value	£69,361
Product of 1d. rate	£261

The public water supply is obtained from springs and boreholes at Timbersbrook on the east side of the town, from Corda Well on Congleton Edge, three miles south-east, and from springs and wells on the west side of the town.

To provide for increasing consumption the local authority propose to construct a borehole and pumping station at Bosley, three miles north-east of the town. The Ministry of Health suggested that the local authority should first consider developing the existing sources of supply. The Council, however, are in favour of sinking a borehole at Bosley and have applied for the Ministry's sanction of this scheme.

Eighteen samples of water were examined during the year, all of which were reported to be satisfactory.

CREWE

Number of inhabited houses (end of 1939) according to rate books	14,038
Rateable value	£240,577
Product of 1d. rate	£928

Boreholes at Whitmore, Staffs, ten miles south of Crewe, owned by the London Midland and Scottish Railway Company, directly supply the Company's requirements and also provide a public water supply to the town. Increase in consumption due to industrial developments has impelled the Town Council to seek parliamentary powers for the acquisition of new works of water supply. These include boreholes and a pumping station at Eaton, Tarporley, together with a trunk main supplying a reservoir three miles south-east of Crewe.

The construction of the boreholes is well advanced.

5,330 yards of water mains were laid during the year. Quarterly samples of water were submitted for examination; the results were excellent.

DUKINFIELD

Number of inhabited houses (end of 1939) according to rate books	5,920
Rateable value	£74,912
Product of a 1d. rate	£281

The borough is within the limits of supply of Ashton-under-Lyne, Stalybridge and Dukinfield (District) Joint Waterworks Committee. The source of supply is upland surface water which is collected into impounding reservoirs in the Swineshaw Valley immediately above the town of Stalybridge. Service reservoirs thirty-five million gallons capacity, situated at Dukinfield, are used to maintain the supply to the lower portion of the town, the higher parts being served direct from the trunk main from Swineshaw Valley.

Chemical examinations of the supply are made every fortnight. Bacteriological examinations are made weekly. All have been reported as satisfactory.

HYDE

Number of inhabited houses (end of 1939) according to rate books	10,780
Rateable value	£161,076
Product of a 1d. rate	£634

Manchester Corporation supply the borough with water under agreement. Hyde Town Council own a local water supply derived from springs and water courses on Werneth Low, which is wholly used for trade purposes.

The areas taken into the borough in 1936 from the Urban District of Compstall are in need of an improved water supply, but at the present time the provision of such a supply does not appear to be economically possible. During the year thirty samples were collected for chemical and bacteriological examination. All proved satisfactory.

MACCLESFIELD

Number of inhabited houses (end of 1939) according to rate books	11,000
Rateable value	£198,481
Product of 1d. rate	£761

The public water supply is obtained from upland surface water which is collected from high ground in the parishes of Macclesfield Forest and Sutton, three miles south-east from the town, where it is stored in impounding reservoirs. This supply is inadequate to meet the growing demands and in 1938 the Council sunk two boreholes in the borough which on testing yielded approximately one million gallons of water per day. A scheme is in hand for extensions and alterations bringing into use this supply, assuring an ample quantity of water for all purposes throughout the borough. Additional storage of filtered water is to be provided in the 1½ million gallons reservoir on the Hollins, also a half million gallon reservoir at Rulow and a 100,000 gallons reservoir at Whirley. New mechanical filters are being provided at Langley. Hydraulic mains are being provided from the two new bore-hole pumping stations to the reservoirs and water tower, which will improve pressure and give better fire protection to the whole area of the borough.

The quality of the water has been maintained satisfactorily but the quantity has been intermittent in some higher parts of the borough, due to consumption being in excess of the capacity of the mains. The new scheme will rectify these complaints.

Samples of the water have been tested monthly with satisfactory results.

SALE

Number of inhabited houses (end of 1939) according to rate books	12,300
Rateable value	£314,107
Product of a 1d. rate	£1,200

The borough is within the statutory limits of supply of Manchester Corporation Waterworks. Only a few farms and cottages on the outskirts of the borough are without mains water.

STALYBRIDGE

Number of inhabited houses (end of 1939) according to rate books	6,800
Rateable value	£115,721
Product of 1d. rate	£440

URBAN DISTRICTS

ALDERLEY EDGE

Number of inhabited houses (end of 1939) according to rate books	944
Rateable value	£32,543
Product of 1d. rate	£120

The district is adequately supplied with water by Stockport Corporation, under statutory powers. Both quantity and quality have been satisfactory during the year.

ALSAGER

Number of inhabited houses (end of 1939) according to rate books	943
Rateable value	£17,363
Product of a 1d. rate	£66

The district is adequately supplied with water from the Council's boreholes which are situated within the district. Only a few outlying farms and cottages are dependent upon wells. A new six-inch main has been laid from the Council's reservoir to the Royal Ordnance Factory at Radway Green.

No samples of the supply were submitted for examination during the year.

BOLLINGTON

Number of inhabited houses (end of 1939) according to rate books	1,667
Rateable value	£23,351
Product of a 1d. rate	£84

The urban district is adequately supplied with water obtained from the Council's boreholes at Rainow, two miles south of Bollington. Bulk supplies are also furnished to adjacent portions of the Rural District of Macclesfield. During the year work was completed on improvements to the water undertaking which included two covered storage reservoirs of 200,000 gallons and 30,000 gallons capacity respectively, approximately three miles of new water mains and a new automatic Chlorination plant.

Four samples of the supply were submitted for bacteriological examination; the results were satisfactory.

BOWDON

Number of inhabited houses (end of 1939) according to rate book	860
Rateable value	£40,329
Product of a 1d. rate	£157

The district is within the statutory limits of supply of Manchester Corporation Water Undertaking. The district has been adequately supplied during the year.

BREDBURY AND ROMILEY

Number of inhabited houses (end of 1939) according to rate books	5,436
Rateable value	£96,737
Product of a 1d. rate	£369

Stockport Corporation have statutory powers of supplying water in the urban district. The unsatisfactory privately-owned water supply for the village of Compstall was superseded in November when Stockport water was provided for this area. Approximately 700 yards of water main were laid for this purpose.

Monthly samples of water are collected for bacteriological examination by Stockport Corporation.

CHEADLE AND GATLEY

Number of inhabited houses (end of 1939) according to rate books	8,930
Rateable value	£228,545
Product of a 1d. rate	£855

The public water supply is provided by Stockport Corporation under statutory powers. Quantity and quality have been satisfactory during the year.

ELLESMERE PORT

Number of inhabited houses (end of 1939) according to rate books	7,122
Rateable value	£173,361
Product of a 1d. rate	£647

The public water supply is provided by the West Cheshire Water Board whose boreholes are at Hooton and Mouldsworth. The supply has been satisfactory in quality and quantity.

The Water Board submit samples of water for bacteriological examination at fortnightly intervals, and samples for chemical analysis each quarter. The results have been satisfactory. A scheme for improving the supply of water in the Parish of Ince is in hand.

HALE

Number of inhabited houses (end of 1939) according to rate books	3,600
Rateable value	£140,000
Product of a 1d. rate	£555

The public water supply, which is provided by Manchester Corporation, under statutory powers, is satisfactory in quantity and quality. Twenty-four wooden bungalows on the outskirts of the district are dependent on shallow wells and rain water tanks. The provision of mains water to these dwellings is still under consideration.

HAZEL GROVE AND BRAMHALL

Number of inhabited houses (end of 1939) according to rate books	6,249
Rateable value	£162,343
Product of a 1d. rate	£627

The urban district was enlarged on the 1st April by the transfer of the former Parish of Woodford from the rural district of Macclesfield; an area of 1,462 acres with a population of approximately 850.

The district is within the statutory limits of supply of Stockport Corporation. The quantity and quality have been satisfactory during the year.

Scattered houses in Upper Torkington are in need of an improved water supply.

HOOLE

Number of inhabited houses (end of 1939) according to rate books	2,420
Rateable value	£47,203
Product of a 1d. rate	£196

The public water supply is provided by Chester Waterworks Company under statutory powers.

One sample of this supply was submitted for examination by the local authority. The result was satisfactory.

HOYLAKE

Number of inhabited houses (end of 1939) according to rate books	7,600
Rateable value	£267,000
Product of a 1d. rate	£1,044

The urban district is adequately supplied with water from the Council's boreholes at Newton and West Kirby. Samples of this supply were submitted quarterly for bacteriological examination, all of which were satisfactory.

KNUTSFORD

Number of inhabited houses (end of 1939) according to rate books	1,722
Rateable value	£43,025
Product of 1d. rate	£165/10s.

The public water supply is provided by Knutsford Light and Water Company who purchase water in bulk from Manchester Corporation. 700 yards of new mains have been laid to meet housing development. One sample of water was submitted for examination by the local authority. The result was satisfactory.

LONGDENDALE

Number of inhabited houses (end of 1939) according to rate books	1,677
Rateable value	£21,974
Product of a 1d. rate	£91

The district is supplied with water by Manchester Corporation, under agreement.

LYMM

Number of inhabited houses (end of 1939) according to rate books	1,814
Rateable value	£34,908
Product of a 1d. rate	£132

The public water supply is obtained from the Council's boreholes at Lymm. Only a few outlying premises are dependent upon wells. Two chemical and one bacteriological samples were examined during the year. The results were satisfactory.

MARPLE

Number of inhabited houses (end of 1939) according to rate books	4,073
Rateable value	£83,270
Product of a 1d. rate	£320

The greater part of the district is supplied with water by Stockport Corporation but the parishes of Ludworth and Mellor are supplied with spring water which is collected into service reservoirs on high ground. These supplies, which were taken over on the transfer of the two parishes from Derbyshire in 1936, have not been satisfactory in quantity or quality. Certain higher parts of these parishes cannot be supplied with water by the undertaking.

Twenty-two samples from Mellor, twenty-six from Ludworth and two from Marple were examined during the year.

Chlorination plants were installed in the early part of the year at Ludworth and Mellor reservoirs.

New water mains have been laid to supply housing development.

MIDDLEWICH

Number of inhabited houses (end of 1939) according to rate books	1,750
Rateable value	£25,856
Product of a 1d. rate	£100

The district is supplied with water which is obtained from the Council's boreholes at Delamere, ten miles north-west from the town.

One sample of the water was submitted for examination during the year. The result was satisfactory.

NANTWICH

Number of inhabited houses (end of 1939) according to rate books	2,379
Rateable value	£41,076
Product of a 1d. rate	£165

The town and a small part of the adjacent rural district is supplied with water from the Urban District Council's Waterworks at Baddiley Mere, three miles south-west from Nantwich.

During the year a new chlorination plant has been installed. Monthly samples of the water have been submitted for examination, all of which were satisfactory.

NESTON

Number of inhabited houses (end of 1939) according to rate books	2,428
Rateable value	£68,002
Product of a 1d. rate	£263

The district is supplied with water from the Council's boreholes at Little Neston. Samples of the supply are submitted quarterly for chemical and bacteriological examination. The samples are reported to be satisfactory.

NORTHWICH

Number of inhabited houses (end of 1939) according to rate books	5,440
Rateable value	£121,353
Product of a 1d. rate	£505

The water supply is obtained from springs and boreholes at Cotebrook, six and a half miles south-west, belonging to the Urban District Council. Under their Act of 1914 the local authority have statutory powers of supply in the semi-urban parish of Rudheath (Northwich Rural District) which adjoins the eastern boundary of the town.

During the year the existing mains supplying Winnington Ward were enlarged. Samples of the water were submitted for examination at intervals of four months. The results were satisfactory.

RUNCORN

Number of inhabited houses (end of 1939) according to rate books	6,501
Rateable value	£134,371
Product of a 1d. rate	£521

The water supply is obtained from a borehole at Runcorn owned by the Runcorn District Water Board and a bulk supply is furnished by Liverpool Corporation from their Vyrnwy aqueduct. Both waters are mixed before distribution so as to reduce the hardness of the borehole supply.

A new fifteen inch main was laid from Norton Tower on the Liverpool Corporation's Vyrnwy Supply to the Runcorn Hill Reservoir.

Eight samples of water were submitted for examination all of which were satisfactory.

SANDBACH

Number of inhabited houses (end of 1939) according to rate books	2,606
Rateable value	£40,826
Product of a 1d. rate	£152

The water supply is obtained from the Council's boreholes at Taxmere one and a half miles north-east from the town. Part of the adjacent Rural District of Congleton is also supplied under agreement.

During the year the supply was improved by the sinking of one small additional borehole. It is intended to sink additional boreholes in 1940 to meet increasing consumption.

Two examinations of the supply were made which gave satisfactory results.

WILMSLOW

Number of inhabited houses (end of 1939) according to rate books	4,921
Rateable value	£130,300
Product of a 1d. rate	£518

The urban district is within the statutory limits of Stockport Corporation water undertaking.

WINSFORD

Number of inhabited houses (end of 1939) according to rate books	3,318
Rateable value	£47,522
Product of a 1d. rate	£182

The Urban District Council own three sources of water supply:—(a) Oakmere Lake, (b) Springs at Little Budworth, (c) Springs at Abbots Moss, Little Budworth.

The first source of supply was discontinued after the drought of 1937, but towards the end of this year was brought into use again. Little Budworth water is a gravity supply; Abbots Moss and Oakmere water is chlorinated and pumped into an elevated water tower at Oakmere.

During the year a culvert by-pass to divert the Abbey Arms Brook from Oakmere Lake was completed and sundry renewals and minor mains extensions were carried out.

Two examinations of the supply were made—both were satisfactory.

WIRRAL

Number of inhabited houses (end of 1939) according to rate books	4,554
Rateable value	£135,859
Product of a 1d. rate	£518

The district is adequately supplied with water by the West Cheshire Water Board.

RURAL DISTRICTS

BUCKLOW

Number of inhabited houses (end of 1939) according to rate books	2,708
Rateable value	£60,614
Product of a 1d. rate	£240

The northern parishes of this district adjoin the urban areas of Altrincham, Bowdon, Hale, Sale and the Withenshaw Estate of the City of Manchester. The rural district extends in a southerly direction to within four miles of Northwich and entirely surrounds the town of Knutsford. During recent years the district has lost its most populous parishes to adjacent authorities; there is only one parish (Mobberley) with a population of over one thousand.

Residential development has taken place east of Altrincham and south of Bowdon and Hale.

Manchester Corporation, Stockport Corporation, Knutsford Light and Water Company and Lymm Urban District Council supply water to portions of the Rural District under statutory powers.

Other parishes are supplied by these authorities under agreements.

The rural district is generally well supplied with mains water.

CHESTER

Number of inhabited houses (end of 1939) according to rate books	4,960
Rateable value	£112,354
Product of a 1d. rate	£440

The district almost surrounds the City of Chester and the adjacent Urban District of Hoole. Semi-urban parishes on the outskirts of Chester are supplied with water by Chester

Waterworks Company and Wrexham and East Denbighshire Water Company. Other parishes are supplied by the West Cheshire Water Board and Runcorn Rural District Council.

Several of the north-eastern parishes are supplied by the local authority from their borehole and pumping station at Plemstall which was completed in 1938.

The rural district is generally well supplied with water. Several examinations of mains water have been made, the results were satisfactory.

CONGLETON

Number of inhabited houses (end of 1939) according to rate books	3,459
Rateable value	£49,657
Product of a 1d. rate	£189

The district is situated in the south-east part of the County on the borders of Staffordshire. It extends north-west and south-west from the Borough of Congleton to the Urban Districts of Alsager, Sandbach and Middlewich.

With the exception of the Mow Cop area on the eastern boundary which rises to a height of 1,000 feet O.D., the district is flat and is almost entirely agricultural in character.

Practically every parish in the rural district is supplied with water from the Council's boreholes and pumping station at the foot of Mow Cop.

Only one sample of the supply was submitted for examination during 1939. The result was satisfactory.

DISLEY

Number of inhabited houses (end of 1939) according to rate books	945
Rateable value	£23,405
Product of a 1d. rate	£97

The district lies in the north-eastern part of the County, six miles south-east from Stockport. It is undulating in character with high ground (600—800 feet) falling in a northerly direction to the river Goyt which forms the County boundary. The developed portion of the district consists of the village of Disley—chiefly working class houses along the Manchester-Buxton Road. Residential development has taken place at Dane Bank south of the village and at Disley Wood on the west side of the village.

The public water supply is provided by Stockport Corporation under statutory powers. The district is adequately supplied although a few premises at Higher Disley are in need of improved pressure. Steps are being taken to remedy this.

Two samples of the water supply were examined during the year. Both were satisfactory.

MACCLESFIELD

Number of inhabited houses (end of 1939) according to rate books	5,580
Rateable value	£103,152
Product of a 1d. rate	£399

Macclesfield Rural District entirely surrounds the Municipal Borough of Macclesfield and the adjacent Urban District of Bollington and extends from Hazel Grove in the north to the Municipal Borough of Congleton in the south. The eastern part of the district abuts on the Counties of Derbyshire and Staffordshire whilst the western boundary joins up with the Urban Districts of Alderley Edge and Wilmslow and the Rural Districts of Bucklow and Congleton.

The eastern parishes are hilly and sparsely populated and include moorland gathering grounds of Macclesfield and Stockport Corporation Waterworks. Heights above ordnance datum vary from 1,700 to 230 feet—the highest points being in the easterly and south-easterly parts of the district and the lowest on the north-westerly boundary. There are only four parishes (Poynton, Prestbury, Rainow and Sutton) with populations of over one thousand.

Being within easy reach of the industrial districts of Macclesfield, Manchester and Stockport, residential development has spread to parishes south of Hazel Grove and on the outskirts of Macclesfield.

The area of the district was reduced on the 1st April by the transfer of the parish of Woodford to the Urban District of Hazel Grove and Bramhall.

The chief sources of supply in the district are the water undertakings of Macclesfield and Stockport.

Other parts of the district are supplied by Bollington Urban District Council and Poynton Collieries Company.

The Rural District Council own a small upland surface supply which serves the village of Kettleshulme. It is intended to spend £850 in enlarging the existing reservoir and to provide an internal supply in every house in the village instead of the present system of stand-pipes, but this work cannot be carried out until after the war.

A scheme for a public water supply for the parishes of Eaton and North Rode was sanctioned by the Ministry of Health following a Public Inquiry in May. The scheme consists of a borehole, adit and collecting reservoir on the high ground of Gawsorth Common, together with the necessary distribution mains.

The organic quality of the water is satisfactory but the presence of iron salt (hydrated ferrous carbonate) has necessitated the provision of a small cascade aerator, filter and lime treatment plant.

The work is in progress and should be completed some time during 1940.

There are small privately-owned supplies which serve the village of Rainow, and the village of Langley (Sutton Parish). The water, which is derived from springs on high ground, is collected into reservoirs and gravitated into the villages.

In June, 1939, a chlorination plant was installed by the owners of the Langley supply but a test sample taken in February, 1940, shewed that there was no free chlorine in the water delivered to consumers. On the advice of the local Medical Officer of Health the dosage of chlorine was increased and quarterly samples are submitted for examination by the owners.

A test sample taken from the Rainow reservoir in February, 1940, was reported upon by the County Analyst as of definitely potentially unwholesome bacteriological quality. A recently impounded spring was found to be causing the trouble. This spring was cut off and the supply is now satisfactory.

Rapid development in the parish of Sutton on the southern boundary of Macclesfield Borough has caused some difficulty in maintaining adequate pressure but certain works have been carried out by the Borough Engineer of Macclesfield which will improve the supply pending the completion of Borough's major scheme.

The policy of extending mains is being continued.

800 yards of 3-inch diameter mains were laid in the parish of Withington.

148 yards of 3-inch diameter main were laid in the parish of Prestbury.

580 yards of 4-inch diameter main were laid in the parish of Mottram St. Andrew.

532 yards of 2-inch diameter mains have been laid in the parish of Bosley.

Schemes have been prepared for laying 2,956 yards of water mains in the parish of Gawsworth and 5,070 yards in the parish of Withington.

Parts of the rural district which are in need of an improved water supply are the Ginchlough area of Rainow Parish and the Gurnett area of Sutton Parish.

One sample was submitted for examination from Macclesfield and Stockport Corporation supplies. Both were satisfactory.

Twenty-one examinations of private supplies were made. Six of these were unsatisfactory and the property owners were pressed to provide an alternative supply.

NANTWICH

Number of inhabited houses (end of 1939) according to rate books	7,593
Rateable value	£117,995
Product of a 1d. rate	£474

The district is situated in the south-westerly part of the County, on the borders of Staffordshire and Shropshire. It surrounds the Municipal Borough of Crewe and the Urban District of Nantwich. The district contains sixty-seven parishes, two having populations of over 2,000 and three with populations of 1,000. Only ten parishes have less than 100 inhabitants.

The greater part of the district is devoted to dairy farming.

The two main sources of the public water supply are the Council's boreholes at Bearstone in the Rural District of Market Drayton, Salop, and the Liverpool Corporation main which passes through the western part of the district.

The district is adequately supplied with water but owing to developments taking place, certain extensions, estimated at a cost of £40,000, are required to the Council's water undertaking.

The Council have decided to engage a consultant in connection with the proposed improvements.

Samples of the water are submitted for chemical and bacteriological examination twice yearly. The County Analyst reports that the water is of high organic purity and of sound bacteriological condition.

NORTHWICH

Number of inhabited houses (end of 1939) according to rate books	8,633
Rateable value	£148,725
Product of a 1d. rate	£565

The Rural District surrounds the town of Northwich and the Urban Districts of Middlewich and Winsford which are centres of the Salt and Chemical Industry. Several parishes adjacent to Northwich are semi-urban in character as will be seen from the following census returns of 1931:—Barnton (3,198), Cuddington (1,100), Davenham (1,740), Hartford (1,424), Lostock Gralam (1,095), Moulton (1,223), Rudheath (2,728), Weaverham (2,714), Wincham (1,017). The village of Tarporley on the western boundary of the district has a population of 1,382.

The local authority own three sources of supply:—

Springs at Crabtree Green in the parish of Oakmere;

Springs in the parish of Aston-by-Budworth;

Borehole in the parish of Eddisbury;

all of which are situated in the Northwich Rural District.

The Aston-by-Budworth springs, which gave a gravity supply to the parishes of Marston and Wincham, were abandoned during the year owing to the water being condemned by the County Analyst. These two parishes are now supplied by Northwich Urban District Council.

Eddisbury borehole was sunk in 1935 but has not yet been developed. During 1939 it was deepened and subjected to the usual fourteen day pumping test which gave a yield of 1,800,000 gallons per day. It is intended to apply for loan sanction for the provision of the necessary pumping plant and reservoir in connection with this source of supply. Plans and estimates are being prepared for submission to the Ministry of Health.

The Rural District Council have agreements with Winsford Urban District Council and Northwich Urban District Council for bulk supplies of water for several parishes. Under their Act of 1914 the latter authority have statutory powers of water supply in the parish of Rudheath.

Liverpool Corporation supply water to the village of Tarporley under an old agreement made with the former Tarporley Urban District Council, the period for which expires in a few years. Complaints of poor pressure in the village have been met by the scraping and cleansing of the mains which have been in use many years.

The adjacent parishes of Rushton and Utkinton (part of the former Urban District of Tarporley) are badly in need of a public water supply. Private and public wells have been condemned by the County Analyst.

The Rural District Council have been progressive in the matter of water supplies; every parish has a mains supply excepting the two referred to. These—the legacy of a defunct authority—will be supplied by the projected development of Eddisbury borehole.

The policy of the Rural District Council inclines towards the termination of supplies from other authorities and the development of its own sources of supply, probably on the grounds that water can be produced more cheaply from its own undertaking than that purchased from other authorities.

The residents of Tarporley, however, have expressed a preference for retaining Liverpool water which is softer than that obtained from underground sources.

Increasing consumption of water in the semi-urban parishes adjoining Northwich has a tendency to deprive residents of outlying parishes on the eastern side of the district, from whom complaints were received of inadequate pressure and occasional failure of the supply. This has been remedied by means of a connection with Congleton R.D.C. mains on the Goostrey boundary.

Improvements carried out during 1939 include a new five-inch main from Lostock Gralam to Wincham for the purpose of supplying Marston and Wincham in lieu of the condemned springs' supply. A new main has been laid from Tarporley to supply Council houses at Utkinton and a mains extension has been carried out in Cotebrook to certain cottages which were without a supply of water.

All the main sources of supply were sampled three times during the year for bacteriological examination.

RUNCORN

Number of inhabited houses (end of 1939) according to rate books	9,771
Rateable value	£206,084
Product of a 1d. rate	£807

The parishes adjacent to Warrington have a combined population of 12,000; they are urban in character and contain suburban development. Residential development has also been attracted to the parishes of Frodsham, Halton, Helsby and Kingsley which lie south of Runcorn and are within easy access of the Merseyside industrial area.

The western parishes are supplied with water from the local authority's boreholes at Helsby and Frodsham, a small spring supply at Manley, and by a connection with the Liverpool Corporation main.

Parishes in the eastern part of the district are supplied by Warrington Corporation, partly under statutory powers and partly under agreements.

Improvements carried out during the year include the installation of an additional pump in the Helsby borehole, enabling water to be drawn from a lower depth than hitherto.

One spring at Manley was condemned on the grounds of pollution but no interruption of the supply occurred.

In the Helsby and Frodsham area the Council have constructed a Booster Station at Alvanley and have improved the distribution system by laying 5,600 yards of new mains from three inches to twelve inches in diameter.

It is reported that pressure is occasionally inadequate in parts of the Aston-Dutton area, and also in parts of the Antrobus-Whitley Area.

Ninety-nine samples of water were submitted for chemical and bacteriological examination during the year, chiefly in connection with well water supplies. In such cases where these have been reported as unsatisfactory the Council have pressed for a supply from the mains.

TARVIN

Number of inhabited houses (end of 1939) according to rate books	3,951
Rateable value	£69,654
Product of a 1d. rate	£277

The district is situated in the western part of the County and extends in a southerly direction from the suburbs of Chester to the outskirts of Whitchurch, Salop. It is agricultural in character and contains only three parishes (Malpas, Tarvin and Tattenhall) with populations slightly exceeding one thousand.

The local authority possess a small undertaking consisting of springs at Ashton Hayes which serves three parishes.

Several parishes in the north-west part of the district including the village of Farndon are within the statutory limits of supply of the Wrexham and East Denbighshire Water Company.

The Liverpool Corporation main, which passes through the southerly portion of the district, supplies the village of Malpas and a few other parishes.

The villages of Kelsall and Tarvin on the north-east side of the districts are supplied by Northwich Rural District Council.

In 1937 the Rural District Council submitted to the Ministry of Health a scheme for works of water supply for forty-seven parishes. Modifications suggested by the Ministry resulted in an amended scheme being prepared but this has now been held up by the war.

The village of Tattenhall with a normal population of 1,000 is urgently in need of a public water supply; many of the wells are of doubtful purity and, in addition, the recently completed sewerage scheme is largely inoperative owing to the absence of mains water. Since the outbreak of war the position has been aggravated by the billeting of evacuees in the village.

The Ministry of Health has recently sanctioned an emergency scheme by means of which the village will be supplied through a connection with the Liverpool main at Beeston, three miles east from Tattenhall. At the time of writing the laying of the connecting main is in progress.

Twenty-one samples of water were examined during the year from various private supplies, eight of which were satisfactory and thirteen unsatisfactory.

TINTWISTLE

Number of inhabited houses (end of 1939) according to rate books	437
Rateable value	£23,854
Product of a 1d. rate	£79

The Rural District is situated in the extreme north-easterly part of the County. The village of Tintwistle, with a population of 1,100 is situated in the south-easterly part of the district. It is supplied with mains water by Tintwistle Waterworks Company; the source of supply being springs on Tintwistle Moors.

During periods of dry weather there is a shortage of water but the Company have recently made arrangements with Manchester Corporation for a supplementary supply in case of need.

The quality of the water supplied by the Company is satisfactory. Bacteriological examinations of the supply are made half yearly.

MINISTRY OF HEALTH INQUIRIES

During the year only one local inquiry was held into an application for loan sanction. This was held on the 16th May in respect of an application by Macclesfield Rural District Council for a loan of £5,936 for works of water supply for the parishes of Eaton and North Rodé. The loan was sanctioned and the works are in progress.

An Inquiry into an application for a loan of £185,000 for works of sewerage and sewage disposal in the Borough of Altrincham, which should have been held on the 29th August, has been indefinitely postponed.

Schemes of local authorities are unavoidably held up during the present state of emergency as a result of the Ministry of Health's Circular of the 13th September to local authorities urging them to limit their applications for loans to works which cannot possibly be postponed. There is difficulty in obtaining materials, and in addition, the cost of any scheme carried out at the present time is certain to be in excess of pre-war estimates.

The policy of the Government in making grants to local authorities for unemployment relief works after the last war may possibly be resumed on the cessation of hostilities. It is confidently expected that there will be a return to normal activity in the improvement of public health services at the end of this war.

Section XIV.-Sewerage and Sewage Disposal

Millions of gallons of water are impounded from upland surface sources or pumped from underground by public water undertakings. A large proportion of this water is discharged in the form of sewage into the sewerage systems of local authorities and after purification is returned to streams and rivers.

Large volumes of water are abstracted from rivers for various industrial processes and returned in a more or less impure condition. The prescriptive rights of manufacturers and other riparian owners to the use of river water render it necessary for a certain standard of sewage and trade waste effluent to be maintained in order to conserve the purity of the river for all users, both industrial and agricultural.

A considerable proportion of sewage and industrial effluents discharged into the streams and rivers of Cheshire occurs in the populous manufacturing districts in the north-east and eastern parts of the County. This area, which lies north of a line from Warrington through Knutsford to Macclesfield, is in the watershed of the river Mersey, and for the purposes of Rivers Pollution Prevention comes under the jurisdiction of a precepting authority composed of representatives of three County Councils and fifteen County Borough Councils. This authority, acting under its own Act of Parliament, was formerly known as the Mersey and Irwell Joint Committee.

Under the provisions of the Lancashire County Council (Rivers Board and General Powers) Act, which came into operation on the 1st April, 1939, the Joint Committee was reconstituted and is now known as the Lancashire Rivers Board.

The jurisdiction of the Lancashire Rivers Board ends at Warrington weir. Below this point the Mersey is tidal and not subject to the provisions of the Rivers Pollution Prevention Acts. The sewage of Frodsham and Runcorn is discharged untreated into this section of the river.

The Wirral peninsula, bounded on the east and west by the estuaries of the Mersey and Dee, and on the north by Liverpool Bay, is largely exempt from the necessity of providing full treatment sewage works, although, in fact, full treatment works are operating at Ellesmere Port and Neston which discharge their effluents into tidal waters.

There were expectations that the recently issued report of the Department of Scientific and Industrial Research relating to the pollution of the Mersey would result in the prohibition of untreated or partially treated sewage being discharged into the tidal waters of the river. This, however, has not been the case. Merseyside Local Authorities are, in consequence, relieved from incurring further expenditure on works of sewage disposal.

The majority of the sewage disposal works in Cheshire are of modern design and generally consist of screening and detritus chambers, sedimentation tanks, percolating filters, humus tanks and sludge drying beds. A few works of an obsolete pattern still remain but the loan charges on these are practically paid off and they will probably be replaced by up-to-date works as soon as circumstances permit.

Several small townships and villages in the rural areas are not yet provided with sewers and sewage treatment works but generally Rural District Councils have not been backward in this respect. The chief difficulty in the past has, of course, been finance. This has now been overcome to a large extent by the provisions of Section 57 of the Local Government Act, 1929 (now replaced by Section 307 of the Public Health Act, 1936), which enables County Councils to make grants to local authorities towards the cost of works of water supply, sewerage and sewage disposal. Rural District Councils are also empowered by this Act to spread the cost of such works over the district as a whole instead of the former practice of charging the whole cost of the works to the parish concerned.

The policy of the County Council in making these grants has been to urge Rural Authorities to exercise their powers under the Public Health Act, 1936.

The position at the end of 1939 is shown by the following information which was furnished by Rural District Councils in response to a general inquiry made by this Department:—

RURAL DISTRICTS

BUCKLOW

Under the provisions of the Local Government Act, 1929, the Council adopted the original principles of the County Council whereby the excess over a 1/- rate on the parish concerned for water and 1/6d. for water and sewerage combined was charged uniformly over the Rural District to an amount equivalent to the County Council's contribution, and these principles were put into force in respect of all schemes approved by the County Council up to the outbreak of War when such schemes were suspended. The County Council

are contributing equally with the Rural District Council as a whole the excesses over a 1/- rate on parishes in respect of several water schemes carried out by the Rural District since the Act of 1929 became operative.

CHESTER.

The Council have for some years past by general resolution spread the cost of water and sewerage schemes over the district as a whole, leaving only the maintenance charges or "running costs" to be met by the parish or parishes concerned.

In those parishes where a system of house refuse collection is provided, this service is charged as a special expense to the parish.

CONGLETON

The Council have not adopted the principle of spreading the whole of the cost of water and sewage schemes over the whole area. They have, however, from the outset made substantial contributions out of the General Fund towards special expenses, in accordance with the County Principles, and this practice still continues.

Up to the present time, no contribution has been made from the General Fund towards public cleansing, and special rates are still levied entirely on the parishes concerned for this purpose.

DISLEY

The Rural District consists of the civil parish of Disley only, therefore the cost of sewerage and public cleansing is spread over the district as a whole. The public water supply is provided by a Statutory Undertaker (Stockport Corporation).

MACCLESFIELD

As from 1st April, 1939, the cost of sewage and water schemes and public cleansing has been spread over the district as a whole.

NANTWICH

The Council have not adopted the principle of spreading the cost of water and sewage schemes over the Rural District as a whole.

The question has been considered on one or two occasions but on each occasion the proposal has not received approval, although a considerable section of the Council is in favour of the principle.

Some years ago the Council pooled the receipts and expenditure of the water supply accounts but the deficiencies are still apportioned on the Special Rates of the parishes in the pools. This is a partial acceptance of the principle.

It is hoped that in time the Council will see their way to make all special expenses a charge on the General Rate of the District.

NORTHWICH

On the 25th March, 1938, this Council resolved unanimously that in accordance with the provisions of Section 190 (4) of the Local Government Act, 1933, as from 1st April, 1938, a General Rate only be levied in the Rural District and all Special Expenses of the Rural District Council be defrayed out of the General Rate, and that the accounts of the Council be kept in accordance with the provisions of Section 308 (3) of the Public Health Act, 1936.

RUNCORN

The whole of the cost of water and sewerage schemes, also special expenses in this Rural District, are levied as part of the General Rate, and have been since 1st October, 1936.

TARVIN

It is not the principle of this Council to charge the cost of water supply and sewage disposal schemes to the General Rate Fund. Special rates are levied in each of the parishes where such schemes exist, but the Council make grants from the Rate Fund towards the cost.

The cost of collecting refuse in the various parishes is charged to the General Rate Fund.

TINTWISTLE

The Rural District consists of the civil parish of Tintwistle only, therefore the cost of sewerage and public cleansing is spread over the district as a whole. The public water supply is provided by Tintwistle Waterworks Company.

The move towards centralisation of sewage treatment in the Manchester district has been delayed by the war. The preparation of the preliminary report on the regional treatment of sewage is being undertaken by the City Engineer of Manchester at the request of the Manchester and District Joint Town Planning Advisory Committee. The Engineer states that it will probably take two years to arrive at a decision as to the policy to be adopted and to prepare the necessary plans and other particulars.

During the year the County Council addressed a communication to the Urban and Rural District Councils of Northwich urging co-operation in the matter of sewage disposal with the object of the ultimate elimination of several small sewage works in the semi-urban parishes surrounding the town of Northwich.

A similar communication has been sent to Nantwich Rural District Council urging co-operation with Crewe Corporation in a joint scheme of sewage disposal which would result in the elimination of two sewage works in the Rural District of Nantwich.

Both these authorities are agreed upon a joint scheme. If terms can be arranged to the satisfaction of both parties the scheme is likely to mature, but it is quite certain that these works will be held up until after the war.

This principle has been applied on a small scale in the case of two adjoining hospitals in the Wirral, each of which maintains its own separate sewage works. An agreement has been reached for the purposes of sewage disposal which will remove one unsatisfactory sewage works which is causing a nuisance to the adjoining Institution.

MUNICIPAL BOROUGHS

ALTRINCHAM

The greater part of the borough is sewered to disposal works consisting of tanks and land irrigation. A small sewage works deals with the sewage of Timperley—an area which was transferred from the Bucklow Rural District under the County Review Order.

The Town Council have submitted a scheme to the Ministry of Health for works of sewerage and sewage disposal costing £185,000 which provides for the reconstruction of the main outfall works. The present system of land irrigation is to be replaced with modern bacterial filters and the derelict Timperley works are to be abolished.

The Public Inquiry into the application for loan sanction, which was fixed for the 29th August, was postponed owing to the international situation. It is practically certain that the scheme cannot be carried out until after the war.

BEBINGTON.

The greater part of the borough drains to partial treatment works situated on the banks of the river Mersey. Other parts of the borough are sewered to full treatment works at

Eastham, Spital and Thornton Hough. In spite of improvements carried out by the Borough Surveyor to Eastham works it has been a source of complaint ever since its transfer from the late Wirral Rural District Council.

In January, 1938, the Ministry of Health held an Inquiry into an application for a loan of £487,000 for a comprehensive scheme of sewerage and sewage disposal which will result in the elimination of Eastham Sewage Works and will provide improved sewerage facilities in the borough generally. The scheme was subsequently modified as regards the sewage treatment works as a result of the report of the Department of Scientific and Industrial Research on the discharge of sewage into the river Mersey. The modified scheme meets with the approval of the Ministry but is being held up by the present state of emergency.

CONGLETON

The borough is sewered to treatment works consisting of tanks and bacterial filters which have discharged satisfactory effluents, apart from a slight excess of humus in two samples examined. A consulting engineer is preparing a scheme for works of sewerage for Astbury Marsh area and the adjacent parish of Newbold Astbury in the Rural District of Congleton.

CREWE.

The town of Crewe is sewered to treatment works consisting of tanks and bacterial filters which are producing satisfactory effluents.

The site of Crewe sewage works is restricted and unsuitable for extensions. Works of sewerage are required in the Church Coppenhall area, formerly in the Rural District of Nantwich.

The Town Council have informed the Ministry of Health of their intention to proceed with a major scheme of sewerage and sewage disposal when circumstances permit. It is highly improbable that the adjacent parishes in the Rural District of Nantwich will be excluded from this scheme, having regard to the views of the Ministry of Health on centralisation of sewage treatment works.

HYDE

The borough is sewered to treatment works consisting of tanks and bacterial filters which have recently been reconstructed and improved. The works are supervised by the Lancashire Rivers Board.

MACCLESFIELD

The borough and the adjacent parts of the Rural District of Macclesfield are sewered to modern treatment works which are under the control of the Lancashire Rivers Board.

DUKINFIELD

STALYBRIDGE

The sewage of these two boroughs is dealt with at the treatment works of the Dukinfield and Stalybridge Joint Sewerage Board. The works are supervised by the Lancashire Rivers Board.

SALE

The borough is sewered to treatment works consisting of tanks and bacterial filters which was constructed in 1934.

The works are supervised by the Lancashire Rivers Board.

URBAN DISTRICTS

ALDERLEY EDGE

The district is sewered to treatment works consisting of tanks and land irrigation which are supervised by the Lancashire Rivers Board.

ALSAGER

The water carriage system is in general use and the district is sewered to tanks and sewage filters which are producing satisfactory effluents. The Ministry of Health have approved plans for a sewage disposal works to deal with the sewage at Radway Green.

BOLLINGTON

The district is adequately sewered to treatment works consisting of tanks and filters which are under the supervision of the Lancashire Rivers Board. The effluents have been satisfactory during the year.

BOWDON

Sewage is treated by means of tanks and land irrigation. In 1938 a consulting engineer was engaged to report on the sewage disposal arrangements. Complete re-organisation of the works was suggested at an estimated cost of £11,500. The local authority, however, decided to improve the sewage tanks and extend the existing irrigation area by taking over three acres of land which were under cultivation.

BREDBURY AND ROMILEY.

The whole of the sewage of the district is now treated at Romiley Sewage Works which was recently reconstructed and enlarged. Further improvements with regard to sludge disposal arrangements are contemplated at an estimated cost of £950.

The works are supervised by the Lancashire Rivers Board.

The village of Compstall is in need of improved sewerage and sewage disposal facilities.

CHEADLE AND GATLEY

This developing residential district is well provided with sewerage facilities; only thirty houses in Hall Moss Lane area are not yet sewered. The sewage of the urban district is received and treated at the disposal works of Manchester Corporation. The construction of a new trunk sewer from Bramhall to Cheadle has been commenced which will convey sewage from the adjacent districts of Hazel Grove and Bramhall and a portion of Macclesfield Rural District, via Cheadle and Gatley, to Manchester for treatment.

ELLESMERE PORT

The greater part of the district is sewered to outfall works at Little Stanney which consist of tanks and bacterial filters. The remaining portion of the district drains to a separate treatment works at Ellesmere Port. Both works discharge their effluents into the tidal portion of the river Mersey.

The parish of Ince is unsewered and although rural in character a system ought to be devised to give sewerage facilities for the group of properties in the centre of the village.

HALE

Seventy-five per cent. of the sewage of the district is treated at the Council's sewage works which are on the Activated Sludge system. Sewage from the northern part of the district is dealt with at Altrincham sewage works.

HAZEL GROVE AND BRAMHALL

The district is situated in two separate drainage areas which necessitates two sewage outfall works. Hazel Grove is sewered to treatment works consisting of tanks and bacterial filters. Bramhall drains to a separate works of an obsolete design which, as a result of rapid development, is overtaxed. These works will be superseded upon the completion of the trunk sewer which will extend from Cheadle, through Bramhall, to Poynton in the Rural District of Macclesfield.

Hazel Grove sewerage system has been extended in Buxton Road and Jackson's Lane, and existing sewers enlarged to deal with overloading. On the 1st April, 1939, the former parish of Woodford (1,462 acres) was added to the urban district. This parish is partly served by sewers gravitating to Bramhall sewage works, but a large portion of the parish is at present unsewered.

The Council have instructed their consulting engineers to prepare a sewerage scheme in respect of this area.

HOOLE

This urban district, which adjoins the City of Chester, is adequately provided with sewerage facilities. Extensions of the sewers have been carried out to meet housing development. The sewage of the district is received and treated at the disposal works of Chester Corporation.

HOYLAKE

The sewage of the urban district is discharged into tidal waters; retention tanks at Hoylake and Meols are provided with penstock valves, so that the sewage is discharged only on the ebb tide. Sewer extensions have been carried out from Greasby to Irby Mill Hill.

KNUTSFORD

The urban district is adequately sewered to a modern disposal works consisting of tanks and bacterial filters which are discharging satisfactory effluents.

LONGDENDALE

Hollingworth ward is sewered to a disposal works consisting of tanks and bacterial filters. The lower portion of the village of Broadbottom, which is in a different drainage area, is sewered to a separate works of a different type; parts of this township are in need of sewerage facilities.

Mottram ward has no proper sewerage system; houses are drained into cesspools and surface water drains which discharge into water courses. There are approximately nine hundred houses on the conservancy system in this urban district. A large proportion of these cannot be converted to the water carriage system until the district as a whole has been adequately provided with sewerage facilities. The local authority has engaged a consulting engineer to prepare a comprehensive sewerage scheme for the district but this cannot be carried out until after the war.

MARPLE

For the purposes of sewage disposal the district is divided into three drainage areas. Marple Village, Hawk Green and High Lane districts are drained to the Council's main sewage works. Strines village is drained to a small separate outfall works. The north-easterly portion of the district, including Ludworth and Mellor (parishes transferred from Derbyshire in 1936), drains to what was formerly the sewage works of Ludworth, Mellor and Low Marple Joint Sewerage Board.

The Council's main sewage outfall works have been represented as being in need of improvement and extension.

The question of sewerage facilities and sewage disposal is now under consideration by the local authority who has engaged a consulting engineer to review the position and prepare a report.

Extensions of the sewerage system have been carried out to meet housing developments.

MIDDLEWICH

As mentioned in previous reports the sewage disposal works at Middlewich have been so seriously damaged by subsidence as to be almost useless. The local authority engaged a consulting engineer, who advised relaying certain defective sewers and the construction of a new sewage disposal works on another site. A scheme was under consideration when the outbreak of war prevented any further progress being made.

NANTWICH

The urban district is sewered to a modern disposal works. Periodical samples of effluents have been reported as satisfactory. Excellent progress has been made in conversions from the conservancy system to water carriage, 588 pail closets having been abolished during the year. The remaining 162 in the built-up area include a proportion on poor class property which will subsequently be closed and demolished.

NESTON

Neston and Parkgate are sewered to disposal works consisting of tanks and bacterial filters, the effluent from which is discharged into the tidal waters of the Dee estuary.

The outlying township of Ness drains to a small tank and filter situated on the foreshore of the estuary. The effluent is also discharged into tidal waters.

A scheme has been prepared for the conversion of privy middens at thirty-nine houses in the Neston Colliery district.

NORTHWICH

The town is on the water carriage system but there are still 485 pail closets remaining. A proportion of these are on poor class property which will eventually be demolished as unfit for habitation. Conversion of pail closets during the year amounted to 34.

Although effluent samples from Winnington sewage works (tanks and bacterial filters) have been consistently satisfactory the fact remains that owing to the subsidence it is impossible to avoid some sewage being discharged direct into the river without incurring considerable expenditure.

A small sewage works which formerly served the Witton ward was abandoned several years ago owing to subsidence. Sewage from a portion of this ward is discharged into the Wade Brook which shortly flows into Ashton's Flashes—a large sheet of water formed by brine subsidence. The large dilution afforded by the flash minimises the pollution and the outlet from the flash to the river Weaver causes no pollution of the river.

Whalley Road area is sewered to a derelict sewage pumping station east of Victoria Bridge, which has been out of action for several years—having been rendered useless by subsidence. The pump-well overflow discharges permanently into the river Dane. The subsequent demolition of unfit property in this part of the town will reduce the pollution. In July the Council instructed their Surveyor to submit a scheme for the provision of a new Pumping Plant. This work, of course, cannot be carried out until after the war.

A few houses in the Winnington Hill area discharge their drainage direct into the river Weaver just below the Swing Bridge.

In 1932 the County Council requested the Ministry of Health to consider the desirability of requiring the Urban District Council to cease discharging sewage into the river and to convey it to Winnington sewage works for treatment. The Minister of Health then took the view that the conditions were not of such a character as to justify him in urging the Urban District Council to incur further capital outlay in the financial circumstances of that period.

RUNCORN

The sewage of the urban district discharges into the tidal portion of the river Mersey by means of two intercepting sewers which pass under the Manchester Ship Canal. A

consulting engineer was engaged to report on the sewerage system of the district generally but further consideration of this matter has been deferred owing to the war.

SANDBACH

The greater portion of the district drains to a modern disposal works consisting of tanks and bacterial filters. Periodical samples of effluents have been reported to be satisfactory.

The township of Elworth drains to a separate outfall works which is discharging satisfactory effluents although working at almost full capacity. A few bungalows recently erected in this district are drained to septic tanks which are said to be creating some difficulty.

WILMSLOW

The urban district is sewered to two separate disposal works consisting of tanks and bacterial filters, which serve the northern and southern areas respectively. Both works are discharging satisfactory effluents.

WINSFORD

The major portion of the urban district drains to sewage works situated on either bank of the river Weaver which widens immediately above the town bridge into a large sheet of water which has been caused by brine subsidence. The sewage is screened and passed through a series of lagoons constructed of furnace ashes which are placed on the edge of the river. The sewage percolates through the lagoons and finds its way by an undefined outlet into the river. There is no evidence of pollution. The site of the sewage works is subject to periodical subsidence which necessitates the level of the lagoons being raised from time to time. House refuse is also tipped on this site.

Stanthorne is an area on the east side of the district containing new development which drains to a small sewage works which was taken over from Northwich Rural District Council when this area was transferred to Winsford. The works are satisfactory but are working at full capacity.

A new sewage works was recently completed for the Meadowbank area which lies one mile north of the town.

Extensions of sewers have been completed at a cost of £4,200.

During the year seventy-three conversions from conservancy system to water carriage were carried out. There are still one hundred and sixteen houses in the built-up area on the conservancy system.

WIRRAL

The sewered portion of the district drains to outfall works consisting of sedimentation tanks. The effluent is discharged into the tidal waters of the Dee'estuary.

A scheme for the improvement of sewerage facilities has been prepared but this cannot be carried out until after the war.

RURAL DISTRICTS

The populations which follow for individual parishes are taken from the 1931 Census.

BUCKLOW

The greater part of this district is agricultural with a low density of population. The need for sewerage facilities is limited to a few parishes where residential development has taken place.

Dunham Massey with a population of 800 lies two miles west of Altrincham and is residential in character. The sewage works consist of tanks and bacterial filters which are under the supervision of the Lancashire Rivers Board.

Mere (population 379) contains recent development which is sewered to a small tank and sewage filter.

Mobberley (population 1753). The village is sewered to a small treatment works consisting of tanks and a sewage filter. The Lancashire Rivers Board has called attention to the necessity for improving these works.

Partington (population 816). In May, 1936, the local authority applied to the Ministry of Health for a loan of £16,363 for works of sewerage and sewage disposal for this parish. Difficulties arose in connection with the purchase of land for the sewage works and it became necessary for the Council to make application for a compulsory purchase order. The order has been approved by the Ministry of Health. The Council have received sanction to advertise for tenders but the Scheme is now in abeyance owing to the war.

Ringway (population 263) contains some residential development which is sewered into the adjoining Urban District of Hale.

CHESTER

The following parishes adjacent to the City of Chester are drained into the sewerage system of Chester Corporation, the sewage being treated at Chester sewage works:—Christleton (population 997), Chester Castle (228), Great Boughton (1862), Huntington (approx. 600), Littleton (336) and Upton (2667).

The villages of Aldford, Eccleston and Saughton on the Eaton Estate are drained to sewage works (tanks and bacterial filters) which are owned and maintained in a satisfactory condition by the Estate.

Dodleston village is sewered to a small tank and filter which is owned and maintained by the local authority.

Several properties in the village of Pulford are drained to a small sewage installation which is under private ownership.

Sewerage facilities are required for the parishes of Barrow, Christleton (part), Great Boughton (part), Guilden Sutton, Great Saughall and Little Saughall, Mickle Trafford and Rowton.

CONGLETON

Holmes Chapel is the only township in the district with a population exceeding one thousand. It is sewered to a disposal works constructed in 1935 which also deals with the sewage from Cranage Hall Institution. The works are discharging satisfactory effluents.

A small modern sewage works deals with a portion of the parish of Church Lawton where some residential development has taken place.

The small hamlet of Twemlow drains to a similar installation.

Four townships in the parish of Odd Rode are sewered to an outfall works which was constructed in 1936. Two additional townships in this parish (Mow Cop and Mount Pleasant) which were originally excluded from the Odd Rode sewerage scheme for financial reasons, are now proposed to be included. The extension of the sewerage system to these townships had been sanctioned by the Ministry of Health and work was due to commence in September. This scheme is now held up owing to the outbreak of war.

The preparation of sewerage and sewage disposal schemes for the parishes of Newbold Astbury and Goostrey is held up for the same reason.

The sewage works of Kidsgrove (Staffordshire) Urban District Council are situated in the parish of Church Lawton near the County boundary but there are no properties in the Rural District draining to these works.

DISLEY

The village of Disley is sewered to treatment works consisting of tanks and bacterial filters.

Residential development in Disley Wood—which is in a different drainage area—is sewered to a separate works constructed in 1935.

Both works are supervised by the Lancashire Rivers Board.

MACCLESFIELD

Works of sewerage and sewage disposal are provided in the following parishes:—

Chelford (population 350). A portion of the village is sewered to a small treatment works consisting of settling tanks and land irrigation. The sewers require extending to deal with some thirty houses in Peover Lane.

Chorley (population 380). Sewerage facilities are required for housing development along Knutsford Road. A scheme is under consideration for sewerage of these properties to the sewage disposal works of Alderley Edge Urban District Council which are conveniently situated in this parish.

Gawsworth (population 670). Recent housing development immediately south of Macclesfield borough boundary is sewered into Macclesfield sewerage system. The sewage from a group of Council houses in another part of the parish is treated by means of a small tank and filter.

Henbury (population 404). The sewer has recently been extended from Macclesfield borough boundary to serve development on Chelford Road.

Hurdsfield (population 428). Development along Rainow Road adjoining the north-easterly boundary of Macclesfield is also drained into the borough sewerage system.

Poynton (population 4,500). The sewage works consisting of tanks and land irrigation have been overtaxed for some years owing to residential development which is still proceeding. In 1934 the Ministry of Health sanctioned a loan of £15,500 for the provision of new works, but this scheme has been abandoned in favour of a trunk sewer which will convey the sewage of Poynton via the Cheadle and Gatley Council's sewers for ultimate treatment at the Davyhulme Sewage Works of Manchester Corporation.

A section of this trunk sewer is now under construction.

Prestbury (population 1,103). The village is drained into the main outfall sewer of Macclesfield Corporation which terminates at the Corporation's sewage works, one mile north-west from the village.

Sutton (population 1404). In 1936 works of sewerage were provided to deal with development on the south-east boundary of Macclesfield which is drained into the borough sewerage system. The older village of Langley, $\frac{3}{4}$ mile north-east, with a population of approximately 500, was excluded from this scheme, but at the request of the County Council the local authority has agreed to extend the sewers into the village.

The remaining parishes have a large acreage with scattered populations and are not in need of sewerage facilities.

NANTWICH

The rural district surrounds the Municipal Borough of Crewe and the Urban District of Nantwich. In the semi-urban parishes of Haslington, Shavington, Wistaston and Willaston there has been a considerable amount of residential development within recent years.

Haslington, on the east side of the town of Crewe, drains to a derelict sewage works which has for some years been seriously polluting a tributary of the river Weaver. The local authority has been considering the provision of new sewage works since 1929. A representation was made to the Rural District Council by the County Council in 1933.

Shavington, Wistaston and Willaston, on the west side of Crewe, are sewered to disposal works which were reconstructed and enlarged in 1932 to provide for the next thirty years requirements but the rate of development has already exceeded the capacity of the works.

As the result of a recommendation by the County Council the Rural District Council have agreed to negotiate with Crewe Corporation with a view to a joint scheme of sewerage and sewage disposal which would result in the elimination of both these sewage works.

A small tank and filter deals with the sewage from a part of Calveley parish.

In 1935 the attention of the Rural District Council was called to the necessity for providing sewerage facilities in the parishes of Audlem, Bunbury and Wybunbury, and, subsequently a portion of Stapeley. So far nothing has been done in the matter.

NORTHWICH

The more populous parishes of Barnton, Cuddington, Davenham, Hartford, Lostock Gralam, Moulton, Rudheath and Weaverham are fully provided with sewerage facilities and sewage treatment works which are generally well maintained and, with one or two exceptions, are discharging satisfactory effluents.

Several of these works have been improved and enlarged during recent years owing to increases in the population.

At the present time improvements are needed to existing disposal works at Barnton, Moulton and Weaverham which however, will have to be postponed until conditions return to normal.

In previous reports attention has been called to the desirability of eliminating a number of small sewage works on the outskirts of Northwich. The Clerk of the County Council has formally communicated with the Urban and Rural District Councils of Northwich urging a policy of co-operation in the matter of sewage disposal.

Enforced inactivity of all local authorities as regards the carrying out of works of sewerage and water supply during the period of the war gives these two authorities an opportunity of exploring the possibilities of joint action with a view to avoiding future expenditure in improving or enlarging sewage works serving the parishes surrounding the town of Northwich.

Tarporley village on the west side of the rural district is sewered to an outfall works consisting of tanks and land irrigation which are discharging satisfactory effluents. Parts of the adjoining parishes of Rushton and Utkinton are in need of sewerage facilities.

Delamere and Oakmere are two other western parishes which require sewerage facilities.

The parishes of Comberbach and Wincham in the vicinity of Northwich are also reported to be in need of improved sewerage.

RUNCORN

The parishes of Appleton, Grappenhall, Latchford, Stockton Heath, Thelwall and Walton, which lie on the south side of Warrington County Borough, are urban in character with recent suburban development. They have a combined population of approximately 12,000. These parishes are sewered to full treatment disposal works at Acton Grange which was completed in 1937. Development is spreading southward into parts of the parishes of Appleton and Stretton to which the sewerage system now requires extending.

Frodsham, with a population of 4,800, is sewered to a pumping station on Frodsham Marsh, from which the sewage is discharged into the tidal portion of the river Mersey.

Helsby (population 2,000) is sewered to a disposal works consisting of tanks and bacterial filters which was reconstructed and enlarged in 1932 but is now almost working to capacity owing to new development. Further extensions to these works are proposed when conditions return to normal.

The village of Halton adjoining the Urban District of Runcorn is drained into the Runcorn sewerage system.

The village of Moore is sewered to a disposal works of an obsolete pattern which will require improving when circumstances permit.

Schemes of sewerage and sewage disposal are required for the parishes of Great Budworth, Kingsley, Norley and Sutton.

Two Sanatoria at Kingswood are provided with efficient sewage disposal works.

During the year a new twelve-inch diameter sewer has been laid from Stockton Heath to Grappenhall.

TARVIN

Malpas and Tattenhall, with populations slightly over one thousand, are the only villages in the rural district provided with efficient sewers and sewage disposal works.

The villages of Kelsall and Tarvin, with populations of 900 and 1,255 respectively, are in need of works of sewerage and sewage disposal. Ashton Hayes (430) is another village in need of similar facilities.

The sewage of Farndon (560) is discharged untreated into the river Dee.

The parish of Waverton, three miles south of Chester, also requires a system of sewerage.

Schemes for providing these essential services were in varying stages of preparation when the outbreak of war prevented them being carried into execution.

TINTWISTLE

The village of Tintwistle with a population of 1,100 is sewered to disposal works consisting of tanks and bacterial filters which are discharging satisfactory effluents. The Lancashire Rivers Board is the supervising authority.

MANUFACTURING TRADE WASTES

The Rivers Pollution (Prevention) Act, 1876, places on manufacturers an obligation to take the best practical and available means of rendering harmless any trade waste before discharging it into a watercourse or stream. Legal proceedings for offences under this Act can only be taken by a local authority with the consent of the Ministry of Health.

The principle of trade waste purification is the removal of suspended matter by settlement in tanks, either with or without the aid of a chemical precipitant, the oxidation of the resulting tank liquor by passing through filters constructed of graded stone, coke or cinders, and the neutralisation of any acid or alkali in solution.

In the Salt and Chemical Industries of Mid-Cheshire large quantities of lime are used in the purification of brine and the manufacture of chemicals. The liquid waste from these processes is discharged at a high temperature and contains a large proportion of solid matter in the form of calcium carbonate.

This liquid refuse is gravitated or pumped into large reservoirs which are formed by retaining banks of cinders and solid refuse. The calcium carbonate settles out in the reservoirs and the clear supernatant water is run off into the river.

As the reservoirs fill up with deposited solids the banks are raised periodically, reaching a height of from thirty to sixty feet above the level of the surrounding land. They are ultimately filled to capacity and abandoned and their contents left to dry out and consolidate.

These reservoirs, which are inseparable from the industry, are not quite so disfiguring as the slag heaps of colliery districts but they do sterilise large tracts of land in the vicinity of the chemical works. No practical use for this solid refuse has yet been discovered.

Chemical Works at Lostock Gralam and Salt Works at Wincham and Sandbach discharge this type of trade waste into large sheets of water (locally called 'flashes') which have been caused by land subsidence due to brine pumping. The 'flash' acts as a balancing tank in which the solid matter is precipitated. The clear water discharged from the outlets of the 'flashes' into the river causes no pollution.

Dairy farming is carried on extensively in Cheshire. Large quantities of milk are produced, most of which passes through milk depots for distribution to urban centres of population or is used in the making of dried milk powder or cheese.

There are fifteen depots in the County which (with two exceptions in seweraged areas) discharge large volumes of dairy waste into watercourses or streams. This type of waste consists of spilt milk, waste water from the cleansing of churns, floor washings, and not infrequently whey, which is very polluting in character.

There is no uniform method of purification and the results vary.

One large firm obtains excellent results with sedimentation tanks and percolating filters, chlorination of the final effluent and dilution with waste condensor water.

In another instance good results are obtained by precipitation with alumina ferric in duplicate tanks. A period of twelve hours settlement is given in one tank whilst the other is being filled. The clear supernatant water is pumped away and the sludge is disposed of on land. Eighty to ninety per cent. purification is effected.

In two instances tank treatment and land irrigation has given poor results and is being replaced by other methods of filtration. At five depots the construction of treatment works, which were under consideration, has been delayed or postponed by the outbreak of war.

Bignall Hill Colliery in the County of Staffordshire discharges trade waste into a tributary of the river Weaver a mile or so south of the County boundary. Waste water from coal washing is settled in tanks from which the clear supernatant water is run off; the coal sludge is used as fuel for coke ovens. Gas liquor from the by-product recovery plant is passed through a series of cinder filter dams which have been constructed across a small wooded valley on the colliery estate. By the time the stream has reached the County boundary a certain amount of natural self-purification has taken place. Occasional complaints of pollution are received from farmers which, on investigation, are found to have been due to an accident. The Colliery Company have always adopted suggestions for the improvement of their purification works.

Forge Colour Works, Biddulph, Staffordshire, are also situated close to the County boundary and discharge trade waste into a tributary of the river Dane. Before discharge into the stream the trade waste is treated with a precipitant and passed through settling tanks and filters. No irregularity was observed during the year.

Silversprings Bleaching and Dye Works at Congleton passes trade waste through settling tanks and three circular filters fitted with revolving sprinkler arms. The effluent samples collected during the year have been satisfactory.

Several Mills in the Borough of Congleton are situated in the sewered part of the town and discharge their trade waste direct into the sewers.

Bone and Glue Works, Tattenhall Road. Trade waste from these premises is treated by the addition of alumina ferric and passed through tanks and upward flow filters. The effluent is discharged into a small watercourse which enters the river Gowy about one mile from the works where it causes marked pollution.

The manufacturer claims that as the water-course in question has for many years received the drainage from a few adjoining cottages it is technically a sewer and the local authority is therefore responsible for the pollution, notwithstanding the fact that the volume of trade waste greatly exceeds the negligible amount of domestic drainage.

The Public Health (Drainage of Trade Premises) Act, 1937, which came into operation on the 1st July, 1938, provides that occupiers of trade premises shall have the right to discharge waste liquids into public sewers, subject to the consent of the local authority to be given by by-laws or agreement. Conditions may be imposed by the local authority on such matters as maximum daily flow, periods and rates of discharge, preliminary treatment, temperature and facilities for sampling.

The treatment of trade wastes at sewage works under proper supervision is likely to result in greater efficiency as compared with the maintenance of separate purification plants at factories.

Section XV.-Housing

A survey of housing conditions in three parishes of Run-corn Rural District was completed in January. The attention of the local authority was called to the necessity for taking action under the Housing Acts as regards the repair and demolition of unfit dwelling houses and the provision of new housing accommodation.

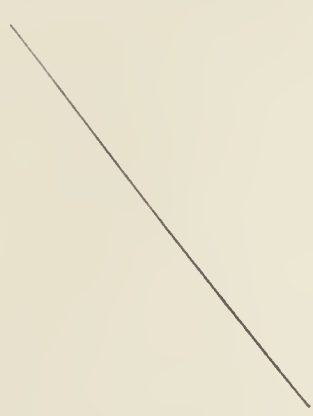
Proposals for dealing with unfit houses and a programme of re-housing, which were under consideration on the outbreak of war, are now unavoidably postponed.

In 1934 attention was called to unsatisfactory progress in housing matters in the Urban District of Winsford. A recent re-inspection shewed that the local authority has, since that date, made excellent progress in the demolition of unfit houses and the provision of Council houses for displaced tenants.

A similar inspection of housing conditions in the former Urban District of Tarporley (transferred to the Rural District of Northwich in 1936) shews that progress has been made in the improvement of housing conditions which were adversely reported upon in 1934.

The following statement, furnished by the courtesy of the County Land Agent, gives a summary of grants which have been made under the Housing (Rural Workers) Acts towards the reconditioning of unfit houses in Cheshire since the Act came into operation.

Applicants for grants must now satisfy the Authorities that the cottages to be reconditioned are to be let to agricultural workers only, and that there is a definite shortage of agricultural labourers' cottages in the district.



HOUSING (RURAL WORKERS) ACTS, 1926/38.

Position at 31st December, 1939.

Summary of Rural and Urban Districts in which
Grants have been made.

District.	No. of Appli- cations.	No. of Dwellings concerned.	Amount of Grant.		
			£	s.	d.
Bebington U.D.C.	2	2	100	0	0
Bucklow R.D.C.	1	1	79	0	0
Chester R.D.C.	8	15	1289	0	0
Cheadle & Gatley U.D.C.	1	1	100	0	0
Congleton R.D.C.	12	22	1954	0	0
Lymm U.D.C.	2	4	350	0	0
Macclesfield R.D.C.	5	14	1346	0	0
Nantwich R.D.C.	69	122	11370	0	0
Nantwich U.D.C.	3	7	530	0	0
Northwich R.D.C.	15	25	2362	0	0
Runcorn R.D.C.	18	36	2851	0	0
Tarvin R.D.C.	73	133	12143	10	0
Wirral U.D.C.	2	3	220	0	0
Winsford U.D.C.	6	14	1126	0	0
	<hr/> 217 <hr/>	<hr/> 399 <hr/>	<hr/> £35820 <hr/>	<hr/> 10 <hr/>	<hr/> 0 <hr/>

The number of applications approved during the year ended 31st December, 1939, was 22, in respect of 34 dwellings, the grants authorised amounting to £3,125 0s. 0d.

Section XVI.-Public Cleansing.

Since the outbreak of war salvage has become increasingly important. In November the Ministry of Supply sent a circular to all local authorities in the country urging the salvage from household refuse of waste paper, rags, glass bottles, bones and metal.

Monthly returns were required by the Ministry of Supply from all local authorities' districts having a population exceeding 10,000.

More recently the salvage drive has been accelerated by the Ministry of Supply who has issued a compulsory direction to all local authorities with a population exceeding 10,000 requiring the operation of satisfactory collection schemes for paper, bones and metal.

One result of salvage has been that the condition of refuse tips has improved and no complaints have been received with regard to their maintenance.

There are still a few urban areas where the objectionable conservancy system lingers on. It is hoped that the local authorities concerned will continue with their efforts to convert to the water-carriage system as far as the present circumstances will permit.

APPENDIX OF STATISTICS

1939

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TABLE A.

Deaths by Causes.—Sex—
Deaths of Infants.—Sex; Legitimacy—
Live Births, Still Births.—Sex; Legitimacy—
Populations—
 Each Sanitary District,
 Urban Districts, Rural Districts.

TABLE B.

Deaths by Causes.—Sex; Age—
 Urban Districts, Rural Districts.

TABLE C.

Statistical Summary of enumerated and estimated
population, area, births and deaths, birth
rate and death rate, deaths of infants,
infantile mortality, deaths from each of
principal zymotic diseases, corresponding
zymotic death rate, for each Sanitary
District.

TABLE A.—(Rural).

CAUSES OF DEATH.	Buoklow R.D.		Chester R.D.		Congleton R.D.		Disley[R.D.		Macclesfield R.D.		Malpas R.D.		Nantwich R.D.		Northwich R.D.		Runcorn R.D.		Tarvin R.D.		Tintwistle R.D.		Wirral R.D.		Aggregate of R.D.'s.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ALL CAUSES	103	116	92	81	92	73	21	16	111	103	24	29	192	150	194	172	193	181	81	67	10	12	37	44	1150	1044
1 Typhoid and Paratyphoid Fevers ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...
2 Measles ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	1
3 Scarlet Fever ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4 Whooping Cough... ..	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2
5 Diphtheria ... ..	...	...	...	...	...	...	1	...	...	...	...	...	4	...	1	1	...	...	...	...	...	...	...	...	5	2
6 Influenza	9	8	...	3	4	3	...	...	10	5	...	1	18	9	6	3	12	7	2	3	...	1	3	4	64	47
7 Encephalitis Lethargica	1	1	...	...	...	...	...	...	...	...	1	...	1	...	1	1	1	...	...	...	...	...	...	...	5	2
8 Cerebro-Spinal Fever ... ..	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2	...
9 Tuberculosis of Respiratory System	1	3	7	4	2	1	2	...	2	5	...	...	4	5	7	5	4	3	1	3	1	...	1	1	32	30
10 Other Tuberculous Diseases ... ..	...	2	3	1	...	...	...	...	2	1	...	...	2	2	3	2	4	4	2	...	...	...	...	...	16	12
11 Syphilis ... ..	...	...	...	...	1	...	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	2	2
12 General Paralysis of the Insane, Tabes Dorsalis ... ..	...	...	2	...	...	...	...	...	1	...	...	...	1	...	...	...	1	1	...	...	...	...	...	...	5	1
13 Cancer, Malignant Disease	21	7	21	13	12	8	4	2	11	11	2	5	18	31	31	22	21	34	3	11	1	1	9	6	154	151
14 Diabetes	1	1	1	2	2	...	...	...	4	3	...	1	...	2	...	6	3	6	1	1	1	...	...	...	13	22
15 Cerebral Haemorrhage, &c.	1	5	5	3	5	3	1	1	2	4	3	1	7	11	2	10	4	12	8	8	...	2	1	4	39	64
16 Heart Disease	19	31	18	19	12	15	5	5	28	25	7	13	49	42	37	45	41	46	19	17	3	2	11	12	249	272
17 Aneurysm ... ..	...	...	1	...	...	...	...	...	1	1	...	...	1	...	1	...	2	...	...	1	...	...	...	...	6	2
18 Other Circulatory Diseases	8	11	4	4	1	3	...	2	6	5	...	...	3	2	9	7	8	10	6	7	1	...	...	...	46	51
19 Bronchitis	5	8	2	2	6	3	...	...	3	2	2	...	7	2	10	10	8	1	3	1	...	...	2	2	48	31
20 Pneumonia (all forms)	4	9	3	4	7	3	1	1	6	7	1	1	9	1	17	11	10	3	1	2	...	...	...	2	59	44
21 Other Respiratory Diseases	1	2	...	1	...	3	1	...	...	2	...	1	1	2	6	2	1	...	...	...	...	...	...	...	10	13
22 Peptic Ulcer	1	1	1	...	1	...	...	...	...	...	1	...	...	...	2	...	2	1	1	1	...	...	...	...	9	3
23 Diarrhoea, &c. (under 2 years)... ..	...	...	...	1	...	...	...	...	...	...	2	...	1	...	1	...	1	1	...	...	...	...	...	...	5	2
24 Appendicitis	2	2	...	...	...	1	...	...	...	1	...	...	2	2	...	5	2	1	1	...	...	...	...	...	7	12
25 Cirrhosis of Liver ... ..	...	...	1	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	3	...
26 Other Diseases of Liver, &c.	1	...	...	...	...	...	1	...	1	1	...	...	...	3	2	1	2	2	...	...	...	...	...	1	7	8
27 Other Digestive Diseases	3	1	2	1	1	2	...	1	2	3	1	1	4	1	4	2	5	6	3	2	...	1	...	2	25	23
28 Acute and Chronic Nephritis	2	1	5	4	1	1	1	...	3	3	1	...	5	5	7	7	5	12	4	2	1	2	...	2	35	39
29 Puerperal Sepsis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
30 Other Puerperal Causes ... ..	...	3	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	1	...	7
31 Congenital Debility, Premature Birth, Malformation, &c.	5	8	3	2	11	4	...	1	5	4	1	2	12	5	6	5	8	8	4	...	...	...	2	3	57	42
32 Senility	1	2	1	3	9	10	...	...	1	7	...	...	7	9	3	9	11	5	4	1	1	3	1	...	39	49
33 Suicide	2	...	2	...	4	...	...	...	4	1	...	...	5	...	2	1	3	1	1	1	...	...	1	...	24	4
34 Other Violence	8	2	4	6	6	1	2	...	7	4	...	...	13	...	17	4	11	2	7	3	...	...	...	...	75	22
35 Other Defined Diseases	7	8	6	8	7	10	3	2	11	7	1	2	15	14	19	11	21	14	10	2	1	...	5	4	106	82
36 Causes ill-defined or Unknown... ..	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	1	1
Special Causes (included in No. 35 above)—																										
Small-pox ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Poliomyelitis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Polioencephalitis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Deaths of Infants (under one year)																										
Total	6	9	4	3	13	4	...	1	7	8	3	2	19	6	13	6	9	11	7	...	...	...	2	3	83	53
Legitimate	6	7	4	3	13	4	...	1	7	8	3	2	19	5	13	6	8	9	4	...	...	...	2	3	79	48
Illegitimate ... ..	...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	2	3	...	...	...	...	...	4	5
LIVE BIRTHS—Total	161	118	114	85	108	98	14	21	117	109	38	31	200	176	208	193	196	209	11	77	12	7	51	58	1310	1182
Legitimate	158	113	112	82	102	94	14	21	112	103	37	28	190	167	204	185	191	198	84	75	12	7	48	57	1264	1130
Illegitimate... ..	3	5	2	3	6	4	...	...	5	6	1	3	10	9	4	8	5	11	7	2	...	...	3	1	46	52
STILLBIRTHS—Total	8	11	2	1	4	5	...	1	5	4	4	2	4	6	8	9	12	11	4	3	...	...	2	2	53	55
Legitimate	7	11	2	1	3	5	...	1	4	4	4	1	4	5	8	9	12	11	4	3	...	...	1	2	49	53
Illegitimate	1	...	...	...	1	...	...	...	1	...	...	1	...	1	...	...	...	...	...	...	...	...	1	...	4	2
RESIDENT POPULATION	22310†		16980*		13530		3295		19510		4333		26400		27370		32280*		13050		2002		Nil*		181060*	
			16940														32460						7770		188970	

† Population unaffected by change.

* The mid-year population shown above relates to the area in question as constituted after the change in boundary on the 1st April or 1st October, 1933, but, as the numbers of births and deaths for the year include—for that portion of the year prior to the change—only those belonging to the old area, some adjustment has to be made to make allowance for this alteration in area. The figure shown in italics has therefore been adjusted accordingly and is to be used for the calculation of the Birth and Death rates for the year 1933.

No. of Specimens	No. of Specimens		No. of Specimens		No. of Specimens		No. of Specimens
	M.	F.	M.	F.	M.	F.	
1	105	110	92	81	93	92	11
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CAUSES OF DEATH.	Hyde M.B.		Knutstord U.D.		Lymm U.D.		Macclesfield M.B.		Marple U.D.		Middlewich U.D.		Mottram-in-Longdendale U.D.		Nantwich U.D.		Neston and Parkgate U.D.		Northwich U.D.		Runcorn U.D.		Sale U.D.		Sandbach U.D.		Stalybridge M.B.		Tarporley U.D.		Wilmslow U.D.		Winsford U.D.		Yeardsley-cum-Whaley U.D.		Aggregate of U.D.'s.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
ALL CAUSES	237	250	34	35	32	43	214	252	38	51	37	26	21	20	44	44	52	45	115	101	108	96	160	166	39	34	168	194	19	17	60	55	87	76	15	8	2996	3063	
1 Typhoid and Paratyphoid Fevers	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	2
2 Measles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	5	3
3 Scarlet Fever	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	...	...	2	1	...	...	9	4	
4 Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5 Diphtheria	2	...	...	...	1	...	1	...	1	1	...	...	1	2	3	...	3	1	11	9	6	6	11	8	...	2	5	11	...	2	4	1	6	6	...	171	191	
6 Influenza	12	15	2	1	...	4	13	8	...	1	5	1	1	2	3	...	3	1	1	1	...	1	1	1	...	2	1	...	...	...	...	...	...	...	...	...	18	8
7 Encephalitis Lethargica	2	3	2	1	...	1	1	...	1	1	1	...	2	1	4	3
8 Cerebro-Spinal Fever	1	1	1	1
9 Tuberculosis of Respiratory System	12	7	3	...	1	1	16	7	4	2	...	2	...	...	5	2	2	...	5	8	8	4	5	4	...	2	8	7	...	1	3	2	2	...	...	...	144	94
10 Other Tuberculous Diseases	3	2	...	1	...	...	2	3	...	...	2	...	...	...	...	1	...	1	...	1	...	3	1	2	...	...	...	2	1	1	...	...	...	1	...	...	23	38
11 Syphilis	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	4	4
12 General Paralysis of the Insane, Tabes Dorsalis	1	1	6	2
13 Cancer, Malignant Disease	22	39	7	8	4	5	26	36	4	11	3	4	5	1	6	8	6	4	14	14	13	11	22	20	4	6	19	25	4	3	10	6	4	8	1	1	362	410	
14 Diabetes	1	4	1	...	...	1	1	1	...	...	1	...	...	4	...	...	...	1	...	...	1	1	1	3	1	...	2	4	...	...	...	1	1	4	...	...	29	51
15 Cerebral Hemorrhage, &c.	15	16	4	4	1	1	10	16	1	1	2	...	2	1	3	3	...	5	4	3	4	5	7	7	1	3	13	17	...	...	1	3	3	2	1	1	137	165
16 Heart Disease	52	55	7	7	9	15	53	73	8	9	11	10	4	5	13	11	6	7	22	20	18	19	26	45	9	5	48	55	3	5	15	17	18	16	3	3	637	738	
17 Aneurysm	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	7
18 Other Circulatory Diseases	9	13	1	4	6	3	15	7	3	3	4	...	1	...	1	...	5	4	3	4	7	4	13	11	2	3	5	3	2	2	4	3	4	7	1	...	174	148	
19 Bronchitis	15	17	2	1	1	1	7	7	1	4	1	...	...	1	1	...	2	3	7	10	5	7	9	7	...	1	10	13	1	...	1	4	4	2	1	...	117	141
20 Pneumonia (all forms)	12	13	...	1	3	3	13	15	6	2	1	2	1	...	2	2	3	4	11	8	9	2	13	8	6	...	10	11	...	...	1	...	...	...	...	...	28	20
21 Other Respiratory Diseases	3	2	...	...	2	...	1	1	...	1	...	1	...	...	...	...	...	...	1	...	...	...	4	2	1	...	...	...	1	...	...	...	...	...	...	...	32	12
22 Peptic Ulcer	1	...	...	1	...	...	2	1	...	1	...	...	...	...	...	...	1	1	2	...	1	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	13	7
23 Diarrhoea, &c. (under 2 years)	1	1	...	1	1	...	1	1	...	2	1
24 Appendicitis	1	...	...	...	...	...	...	2	...	1	...	...	...	...	...	1	...	...	...	2	1	...	2	2	...	...	1	...	...	...	...	1	2	...	...	...	17	23
25 Cirrhosis of Liver	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1	...	...	...	...	1	...	...	2	...	1	...	...	...	10	9
26 Other Diseases of Liver, &c.	2	4	...	...	...	...	...	2	...	1	...	...	...	...	...	1	...	1	...	...	...	1	1	...	...	...	...	3	...	...	1	...	2	1	...	...	10	34
27 Other Digestive Diseases	8	4	...	2	...	3	3	4	2	2	2	1	1	2	3	4	1	3	5	4	1	1	2	...	1	...	56	73
28 Acute and Chronic Nephritis	9	10	...	1	7	9	2	1	1	...	2	1	1	2	5	4	2	2	4	9	1	9	2	2	1
29 Puerperal Sepsis	1	2	11
30 Other Puerperal Causes	...	1	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	24
31 Congenital Debility, Premature Birth, Malformations, &c.	13	2	1	1	...	1	5	7	...	1	2	1	...	...	2	3	6	1	4	2	6	5	7	5	...	1	9	6	...	...	5	1	5	6	...	...	139	95
32 Senility	6	16	1	...	...	...	7	9	1	3	...	1	1	2	...	3	...	...	4	2	5	9	3	6														

DISEASES OF THE		Males		Females		Total	
No.	Name of Disease	No.	Rate per 1000	No.	Rate per 1000	No.	Rate per 1000
1	Typhoid and Paratyphoid Fevers	...	...	...	...	...	...
2	Malaria	...	...	...	...	...	...
3	Scarlet Fever	...	...	...	...	...	...
4	Whooping Cough	...	...	...	...	...	...
5	Diphtheria	...	...	...	...	...	...
6	Influenza	...	...	...	...	...	...
7	Acute Infectious Diseases	...	...	...	...	...	...
8	Cholera	...	...	...	...	...	...
9	Tuberculosis of Respiratory	...	...	...	...	...	...
10	Other Tuberculous Diseases	...	...	...	...	...	...
11	Syphilis	...	...	...	...	...	...
12	General Paralysis of the Insane	...	...	...	...	...	...
13	Tuber Dorsalis	...	...	...	...	...	...
14	Cancer, Malignant Diseases	...	...	...	...	...	...
15	Diabetes	...	...	...	...	...	...
16	Cerebral Hemorrhage, &c.	...	...	...	...	...	...
17	Heart Disease	...	...	...	...	...	...
18	Apoplexy	...	...	...	...	...	...
19	Other Cerebral Diseases	...	...	...	...	...	...
20	Epilepsy	...	...	...	...	...	...
21	Paralysis (all forms)	...	...	...	...	...	...
22	Other Respiratory Diseases	...	...	...	...	...	...
23	Pneumonia	...	...	...	...	...	...
24	Other Diseases	...	...	...	...	...	...
25	Other Diseases	...	...	...	...	...	...

TABLE A.—(Urban ii).

CAUSES OF DEATH.	Hyde M.B.		Knutsford U.D.		Lymm U.D.		Macclesfield M.B.		Marple U.D.		Middlewich U.D.		Mottram-in-Longdendale U.D.		Nantwich U.D.		Neston and Parkgate U.D.		Northwich U.D.		Runcorn U.D.		Sale U.D.		Sandbach U.D.		Stalybridge M.B.		Tarporley U.D.		Wilmslow U.D.		Winsford U.D.		Yeardsley-cum-Whaley U.D.		Aggregate of U.D's.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ALL CAUSES	237	250	34	35	32	43	214	252	38	51	37	26	21	20	44	44	52	45	115	101	108	96	160	166	39	34	168	194	19	17	60	55	87	76	15	8	2996	3063
1 Typhoid and Paratyphoid Fevers	1	...	1	2
2 Measles ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	3
3 Scarlet Fever	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	4	4
4 Whooping Cough ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	1	1	...	1	...	...	...	...	...	...	2	1	...	...	9	4
5 Diphtheria	2	...	...	...	1	...	1	...	1	1	...	...	...	...	...	...	2	3	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	17	15
6 Influenza	12	15	2	1	...	4	13	8	...	1	5	1	1	2	3	...	3	1	11	9	6	6	11	8	...	2	5	11	...	2	4	1	6	6	...	171	191	
7 Encephalitis Lethargica	2	..	...	...	...	...	3	2	...	...	...	...	...	...	...	...	1	...	1	1	..	1	1	1	...	...	2	1	...	...	...	...	...	...	...	18	8
8 Cerebro-Spinal Fever ... ..	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	..	...	...	...	1	...	...	...	...	4	3
9 Tuberculosis of Respiratory System	12	7	3	...	1	1	16	7	4	2	...	2	...	...	5	2	2	...	5	8	8	4	5	4	...	2	8	7	...	1	3	2	2	...	...	144	94
10 Other Tuberculous Diseases	3	2	...	1	2	3	2	1	...	1	...	1	...	3	1	2	2	1	1	1	23	38
11 Syphilis	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	4	4
12 General Paralysis of the Insane, Tabes Dorsalis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	6	2
13 Cancer, Malignant Disease	22	39	7	8	4	5	26	36	4	11	3	4	5	1	6	8	6	4	14	14	13	11	22	20	4	6	19	25	4	3	10	6	4	8	1	1	362	410
14 Diabetes	1	4	1	...	1	1	1	1	...	...	1	...	4	...	...	...	1	...	...	1	1	1	3	1	...	2	4	...	...	...	1	1	4	...	...	29	51
15 Cerebral Hemorrhage, &c.	15	16	4	4	1	1	10	16	1	1	2	...	2	1	3	3	...	5	4	3	4	5	7	7	1	3	13	17	1	3	3	2	1	1	137	165
16 Heart Disease	52	55	7	7	9	15	53	73	8	9	11	10	4	5	13	11	6	7	22	20	18	19	26	45	9	5	48	55	3	5	15	17	18	16	3	3	637	738
17 Aneurysm ... ..	...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	7
18 Other Circulatory Diseases	9	13	1	4	6	3	15	7	3	3	4	...	1	...	1	...	5	4	3	4	7	4	13	11	2	3	5	3	2	2	4	3	4	7	1	...	174	148
19 Bronchitis	15	17	2	1	1	1	7	7	1	4	1	1	1	...	2	3	7	10	5	7	9	7	...	1	10	13	1	...	1	4	4	2	1	...	117	141
20 Pneumonia (all forms)	12	13	...	1	3	3	13	15	6	2	1	2	1	...	2	2	3	4	11	8	9	2	13	8	6	...	10	11	1	2	11	3	4	...	200	145
21 Other Respiratory Diseases	3	2	...	...	2	...	1	1	...	1	...	1	...	...	...	...	...	...	1	...	...	...	4	2	1	...	...	...	1	...	...	...	...	...	...	28	20
22 Peptic Ulcer	1	...	...	1	...	...	2	1	...	1	...	...	...	...	...	...	1	1	2	..	1	...	1	...	...	...	...	2	...	...	1	...	2	...	...	32	12
23 Diarrhoea, &c. (under 2 years)... ..	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1	1	1	...	1	...	...	...	1	...	2	1	...	...	...	...	1	...	...	13	7
24 Appendicitis	1	...	...	...	...	...	2	...	1	...	...	...	...	...	...	1	...	...	...	2	1	...	2	2	...	...	1	...	...	...	...	1	2	..	...	17	23
25 Cirrhosis of Liver ... ..	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1	...	...	...	...	1	...	...	2	...	1	...	...	10	9
26 Other Diseases of Liver, &c.	2	4	2	...	1	1	...	1	1	1	3	1	...	2	1	10	34
27 Other Digestive Diseases	8	4	...	2	...	3	3	4	2	2	2	1	1	2	3	4	1	3	5	4	1	1	2	...	1	56	73
28 Acute and Chronic Nephritis	9	10	...	1	7	9	2	1	1	...	2	1	1	2	5	4	3	2	4	9	1	2	2	3	1	...	6	2	1	1	...	1	96	105
29 Puerperal Sepsis ... ..	...	...	...	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
30 Other Puerperal Causes ... ..	...	1	...	...	...	...	1	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	24
31 Congenital Dehility, Premature Birth, Malformations, &c.	13	2	1	1	...	1	5	7	...	1	2	1	2	3	6	1	4	2	6	5	7	5	...	1	9	6	5	1	5	6	139	95
32 Senility	6	16	1	...	...	...	7	9	1	3	...	1	1	2	...	3	...	...	4	2	5	9	3	6	7	4	3	3	2	...	2	5					

TABLE B.

CAUSES OF DEATH.	Sex.	AGGREGATE OF URBAN DISTRICTS.													AGGREGATE OF RURAL DISTRICTS.												
		All Ages	0—	1—	2—	5—	15—	25—	35—	45—	55—	65—	75—	All Ages	0—	1—	2—	5—	15—	25—	35—	45—	55—	65—	75—		
ALL CAUSES	M F	2996 3063	207 150	35 27	41 43	70 61	85 86	126 141	190 190	379 284	587 602	681 739	595 840	1150 1044	83 53	8 9	12 13	32 11	40 29	68 40	57 56	103 88	192 145	266 278	289 322		
1. Typhoid and Paratyphoid Fevers	M F	2 2	...	...	...	...	1 ...	...	...	...	...	1 ...	...	1 ...	...	...	...	...	...	...	...	1 ...	...	...	...
2. Measles	M F	5 3	2 1	...	1 ...	...	...	...	...	...	...	...	...	1 ...	...	1 ...	...	...	...	...	...	...	...	...	...
3. Scarlet fever	M F	4 4	...	1 ...	1 ...	1 3	...	...	1 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Whooping cough	M F	9 4	3 1	3 ...	2 ...	1 1	...	...	...	...	...	...	...	2 ...	1 ...	1 ...	...	...	...	...	...	...	...	...	...
5. Diphtheria	M F	17 15	...	1 1	7 7	6 5	3 ...	...	...	2 ...	...	...	...	5 2	...	...	1 1	4 ...	...	1 ...	...	...	...	...	...
6. Influenza	M F	171 191	2 2	1 1	2 1	2 3	6 6	13 10	30 24	44 19	30 34	26 44	15 47	64 47	...	...	...	...	2 1	4 3	10 8	14 6	17 3	6 14	11 11
7. Encephalitis lethargica	M F	18 8	...	1 ...	...	1 ...	2 3	4 2	...	1 2	8 1	1 ...	...	5 2	...	...	...	...	1 1	3 ...	...	...	1 ...	...	...
8. Cerebro-spinal Fever	M F	4 3	1 1	...	...	2 1	...	1 ...	...	...	...	...	...	2 ...	...	...	...	1 ...	...	1 ...	...	...	...	...	...
9. Tuberculosis of respiratory system	M F	144 94	...	...	...	1 4	15 22	21 24	37 20	34 10	24 6	11 5	1 2	32 30	...	...	1 ...	...	3 9	12 8	5 6	9 3	2 1	...	...
10. Other tuberculous diseases	M F	23 38	2 3	1 2	4 5	6 8	2 6	6 3	...	...	1 5	...	1 2	16 12	1 1	2 1	4 3	2 ...	2 3	2 1	2 1	...	1 2	...	...
11. Syphilis	M F	4 4	...	...	...	...	...	...	1 1	...	2 1	1 ...	...	2 2	...	...	...	...	...	...	...	1 ...	1 ...	1 ...	...	
12. General paralysis of the insane, tabes dorsalis	M F	6 2	...	...	...	...	...	...	2 ...	1 1	1 ...	2 ...	...	5 1	...	...	...	...	...	1 ...	...	3 ...	...	1 ...	...	
13. Cancer, malignant disease	M F	362 410	...	...	...	...	...	5 7	11 29	54 63	111 102	126 136	55 72	154 151	...	...	...	1 ...	2 2	6 ...	5 9	16 22	45 27	51 60	28 31
14. Diabetes	M F	29 51	...	...	...	1 1	...	1 2	1 4	2 6	7 6	13 22	4 9	13 22	...	...	...	...	...	...	2 1	4 1	5 4	10 ...	...	
15. Cerebral hæmorrhage, &c.	M F	137 165	...	...	...	...	...	...	5 2	11 18	36 42	45 51	40 52	39 64	...	...	...	...	...	1 ...	4 3	8 17	13 22	21 ...	
16. Heart disease	M F	637 738	...	...	...	11 1	6 7	22 23	72 62	133 130	216 229	177 263	249 272	...	...	...	...	1 2	3 2	4 3	7 ...	11 20	49 41	77 78	101 119
17. Aneurysm	M F	5 7	...	...	...	...	...	...	2 1	1 1	1 1	1 2	...	6 2	...	...	...	...	...	...	...	2 1	2 ...	2 1	...
18. Other circulatory diseases	M F	174 148	...	...	...	...	...	...	1 3	4 6	35 18	56 47	78 73	46 51	...	...	...	...	...	...	...	2 2	6 7	16 18	22 24
19. Bronchitis	M F	117 141	6 5	...	...	1 3	...	1 3	2 4	14 4	16 24	31 32	46 65	48 31	...	...	...	...	...	...	2 ...	2 ...	6 ...	11 5	25 24
20. Pneumonia (all forms)	M F	200 145	27 23	14 9	8 7	11 7	5 4	14 7	16 11	31 12	35 20	25 17	14 28	59 44	12 4	3 2	1 2	2 2	3 ...	8 4	4 3	5 2	6 6	12 9	30 10		
21. Other respiratory diseases	M F	28 20	...	...	1 1	1 ...	1 ...	3 4	3 1	4 1	7 2	4 4	4 6	10 13	...	...	...	...	...	2 1	1 2	3 2	3 1	1 ...	3 3
22. Peptic Ulcer	M F	32 12	...	...	...	1 ...	1 ...	5 ...	3 1	11 5	10 2	...	2 2	9 3	...	...	...	...	1 ...	...	...	...	1 1	1 2	...
23. Diarrhoea, &c.	M F	31 16	10 6	3 1	...	2 ...	...	1 2	1 1	2 ...	1 ...	1 2	...	6 6	4 2	...	1 ...	...	...	...	2 ...	...	1 ...	...	1 ...
24. Appendicitis	M F	17 23	...	...	...	1 4	4 4	3 1	3 3	1 4	5 4	...	1 1	7 12	...	...	...	1 2	1 1	1 2	...	1 1	3 3	1 1	...
25. Cirrhosis of liver	M F	10 9	...	...	...	...	...	...	1 ...	1 3	2 4	4 ...	2 1	3 ...	...	...	...	...	...	...	...	...	1 ...	1 ...	1 ...
26. Other diseases of liver, &c.	M F	10 34	...	...	...	...	...	...	3 ...	...	4 ...	2 6	7 9	7 12	...	...	...	...	...	...	1 ...	...	1 ...	3 6	2 1
27. Other digestive diseases...	M F	48 64	3 4	2 2	2 5	2 4	1 3	1 4	2 4	14 7	7 11	7 12	7 8	24 19	...	1 ...	...	4 ...	2 1	3 1	...	1 7	3 3	7 4	3 1	
28. Acute and chronic nephritis	M F	96 105	...	...	...	...	1 2	6 4	6 12	13 13	27 26	26 27	17 18	35 39	...	...	...	...	1 1	2 3	1 3	3 3	8 2	11 13	9 13
29. Puerperal sepsis	F	11	...	...	...	...	2	6	2	1	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...
30. Other puerperal causes	F	24	...	...	...	...	4	12	8	...	...	...	...	7	...	...	...	1	4	2	...	...	...	...	...
31. Congenital debility, premature birth, malformations, &c.	M F	139 95	135 93	2 2	...	1 ...	...	...	...	...	...	1 ...	...	57 42	56 40	...	...	1	...	1	...	...	...	...	...
32. Senility	M F	85 132	...	...	...	...	...	...	...	...	...	8 14	77 117	39 49	...	...	...	...	...	...	...	...	2 6	37 43	
33. Suicide	M F	56 20	...	...	...	...	4 2	5 ...	10 4	13 6	18 5	6 2	...	24 4	...	...	...	...	2 ...	2 ...	5 1	7 1	3 2	4 ...	1 ...
34. Other violence	M F	125 66	4 1	2 2	5 3	15 6	14 4	17 6	13 2	19 2	11 6	13 14	12 20	75 22	2 1	...	3 1	10 2	14 2	13 1	7 ...	6 ...	5 3	10 5	5 6		
35. Other defined diseases	M F	261 257	12 8	4 4	6 5	14 10	15 10	13 15	19 25	32 32	55 46	50 66	41 36	106 82	6 1	...	1 3	6 3	3 4	5 5	7 6	11 11	15 19	31 18	21 11		
36. Causes, ill-defined or unknown	M F	2 2	...	...	1 ...	...	...	...	...	...	1 ...	...	1 ...	1 1	...	...	...	...	...	...	...	1 ...	...	...	1 ...
Special causes included in No. 35 above—																											
Poliomyelitis	M F	1 ...	...	...	...	...	...	1 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Polioencephalitis	M F	...	...	...	...	...	...	...	...	...	...	...	...	1 ...	...	...	1 ...	...	...	...	...	...	...	...	...

No.	Author	Title	Date	Volume	Page	Notes
1	18	18	18	18	18	18
2	18	18	18	18	18	18
3	18	18	18	18	18	18
4	18	18	18	18	18	18
5	18	18	18	18	18	18
6	18	18	18	18	18	18
7	18	18	18	18	18	18
8	18	18	18	18	18	18
9	18	18	18	18	18	18
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31	18	18	18	18	18	18
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49	18	18	18	18	18	18
50	18	18	18	18	18	18
51	18	18	18	18	18	18
52	18	18	18	18	18	18
53	18	18	18	18	18	18
54	18	18	18	18	18	18
55	18	18	18	18	18	18
56	18	18	18	18	18	18
57	18	18	18	18	18	18
58	18	18	18	18	18	18
59	18	18	18	18	18	18
60	18	18	18	18	18	18
61	18	18	18	18	18	18
62	18	18	18	18	18	18
63	18	18	18	18	18	18
64	18	18	18	18	18	18
65	18	18	18	18	18	18
66	18	18	18	18	18	18
67	18	18	18	18	18	18
68	18	18	18	18	18	18
69	18	18	18	18	18	18
70	18	18	18	18	18	18
71	18	18	18	18	18	18
72	18	18	18	18	18	18
73	18	18	18	18	18	18
74	18	18	18	18	18	18
75	18	18	18	18	18	18
76	18	18	18	18	18	18
77	18	18	18	18	18	18
78	18	18	18	18	18	18
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80	18	18	18	18	18	18
81	18	18	18	18	18	18
82	18	18	18	18	18	18
83	18	18	18	18	18	18
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85	18	18	18	18	18	18
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87	18	18	18	18	18	18
88	18	18	18	18	18	18
89	18	18	18	18	18	18
90	18	18	18	18	18	18
91	18	18	18	18	18	18
92	18	18	18	18	18	18
93	18	18	18	18	18	18
94	18	18	18	18	18	18
95	18	18	18	18	18	18
96	18	18	18	18	18	18
97	18	18	18	18	18	18
98	18	18	18	18	18	18
99	18	18	18	18	18	18
100	18	18	18	18	18	18

TABLE C.

SANITARY DISTRICTS.	Population at Census, 1931.	Estimated Population in middle of 1933.	Area in Acres.	Legitimate Births.	Still Births.	Births.	Birth-rate per 1000 Living.	Deaths.	Death-rate per 1000 Living.	Deaths from							Deaths from Principal Zymotic Diseases.	Principal Zymotic Diseases Death-rate.	Deaths under one year.	Deaths under one year to 1000 Births.	Isolation Hospital.	Name of Medical Officer of Health.
										Small-pox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.						
Column Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
MUNICIPAL BOROUGHES																						
Congleton ...	12885	12960	2572	7	11	172	13·2	180	13·8				1				1	·07	9	52	West Heath Joint ...	Dr. Davidson
Crewe ...	46069	45340	2184	23	27	681	12·8	568	12·5		1	1	9	2		1	14	·3	31	53	Crewe ...	Dr. Ingram
Dukinfield ...	19311	19250	1407	6	15	284	13·7	261	13·5							1	1	·05	20	75	Hyde ...	Dr. Starkie
Hyde ...	32075	31710	3079	10	18	321	10·1	487	15·3			4	2				6	·18	17	52	Hyde ...	Dr. Brown.
Macclesfield ...	34905	34780	3214	18	23	420	12·0	466	13·3				1			1	2	·05	21	50	Macclesfield ...	Dr. J. H. D. Lawrie
Stalybridge ...	24831	24530	3132	12	20	326	13·2	362	14·7				1			3	4	·16	24	73	Small-pox only, Hartshead ...	Dr. A. Simpson
	170076	168570	15588	76	114	2084	12·3	2324	13·7		1	5	14	2		5	28	·16	122	58		
OTHER URBAN DISTRICTS																						
Alderley Edge ...	3145	3002	678	1	1	27	8·9	34	11·3												Monsall ...	Dr. Baxter
Alsager ...	2852	2913	2241	2	1	31	10·6	34	11·6										3	96	West Heath Joint ...	Dr. Harpur
Altrincham ...	21356	21300	1425	12	17	294	13·8	261	12·2										7	23	Altrincham ...	Dr. Reid Dunoon
*Bebington ...	26740	33710	12235	13	25	490	15·1	305	9·4		3		1	1		2	7	·21	30	61	Wirral Joint ...	Dr. J. B. Yeoman
Bollington ...	5027	4986	1291	1	2	44	8·8	52	10·4										2	45	Macclesfield ...	Dr. Chadwick
Bowdon ...	3285	3262	850	2		28	8·5	36	11·0						1		1	·3	2	71	Altrincham ...	Dr. Kerr
Bredbury & Romiley ...	10876	11400	3990	2	8	145	12·7	154	13·5							1	1	·08	8	55	Hyde ...	Dr. F. Cant
Buglawton ...	1651	1635	2911	1	1	24	14·6	15	9·1										2	83	West Heath Joint ...	Dr. P. M. Davidson
Cheadle & Gatley ...	18473	20116	5087	7	15	281	13·9	222	11·0			1				1	2	·09	10	35	Monsall and Small-pox Hospital ...	Dr. J. H. Godson
Compstall ...	865	842	903	2	1	15	17·8	10	11·8										1	66	Hyde ...	Dr. A. Jackson
*Ellemere Port ...	18911	24390	9143	18	17	467	20·1	222	9·5		2		5			2	9	·38	35	74	Wirral Joint ...	Dr. J. B. Yeoman
Hale ...	10667	10950	1288	2	4	121	11·0	129	11·7										4	33	Monsall ...	Dr. Lund
Handforth ...	1031	1253	1311	1	1	20	15·9	18	15·1										1	50		Dr. A. Nowell
Hazel Grove ...	13300	14180	5447	7	3	161	11·3	197	13·8										10	62	Hyde ...	Dr. Thos. Moore
Hollingworth ...	2299	2228	2086	1	1	14	6·2	19	8·5										1	13	Small-pox, Mottram Moor ...	Dr. Awhurn
Hoole ...	5889	6015	334	3	4	76	12·6	47	7·8										10	48	Chester ...	Dr. A. Russell
*Hoylake ...	16631	19890	5933	11	4	205	10·7	242	12·6		1		2			2	5	·26	3	35	Wirral Joint ...	Dr. J. B. Yeoman
Knutsford ...	5879	5721	1760	8	5	84	14·6	69	12·0										2	21	Monsall ...	Dr. Blease
Lymm ...	5643	5724	4140	2	5	92	16·0	75	13·1				1				1	·17	2	13	Lymm ...	Dr. Bennett
Marple ...	7389	7405	3055	2	2	75	10·1	89	12·0				1					·13	1	13	Hyde ...	Dr. Jackson
Middlewich ...	5458	5481	1082	2	6	82	14·9	63	11·4				1				1	·18	6	73	Northwich Joint and Marbury ...	Dr. S. L. Melville
Mottram ...	2636	2569	1084	1	1	23	8·9	41	15·9										10	48	Hyde and Small-pox, Mottram Moor ...	Dr. G. J. Awhurn
Nantwich ...	7133	7152	703	3	3	104	14·5	88	12·3							1	1	·13	6	57	Alvaeton Joint ...	Dr. J. D. Munro
*Neeton ...	5676	8250	8497	3	4	114	14·9	97	12·6				5			1	6	·78	10	87	Wirral Joint ...	Dr. J. B. Yeoman
Northwich ...	18732	18200	1398	9	8	233	12·8	216	11·8		1			3		1	5	·27	18	77	Northwich Joint and Marbury ...	Dr. Crow
Runcorn ...	18127	18050	1274	9	14	325	18·0	204	11·3				1			1	2	·11	18	55	Runcorn ...	Dr. Cullen
Sale ...	28071	29880	3629	9	14	365	12·2	326	10·9			2		1			3	·10	17	46	Moneall ...	Dr. D. J. Conolly
Sandbach ...	6411	6416	2694	2	5	89	13·8	73	11·3					1		1	2	·31	3	33	West Heath Joint and Arolid for Small-pox ...	Dr. C. H. Wentworth Bennett
Tarporley ...	2452	2469	6195	1		29	11·7	36	14·5												Chester ...	Dr. W. E. Burton
Wilmelov ...	9760	10220	5090	2	4	119	11·6	115	11·2										8	67	Monsall ...	Dr. A. Byers
Winsford ...	10998	10810	5785	7	18	150	13·8	163	15·0					3	1	1	5	·46	13	86	Davenham and Marbury ...	Dr. L. J. Pictou
*Wirral ...	9540	9540	5639	1	8	97	13·0	60	8·0				1				1	·13	3	30	Wirral Joint ...	Dr. Yeoman
Yearsley-cum-Whaley ...	1745	1767	1323			21	11·8	23	13·0				1		1		2	·13	1	47	Hyde and High Peak ...	Dr. F. G. Allan
	299108	332120	110501	145	202	4445	13·6	3735	11·4		7	3	18	11	2	14	55	·16	235	52		
RURAL DISTRICTS																						
Bucklow ...	20115	22310	51239	8	19	279	12·5	219	9·8										·15	53	Monsall ...	Dr. Blease
*Chester ...	16165	16980	32483	5	3	199	11·7	173	10·2							1	1	·05	7	35	Wirral Joint ...	Dr. W. E. Burton
Congleton ...	13124	13530	40152	10	9	206	15·2	165	12·1					1			1	·07	17	82	West Heath Joint ...	Dr. C. H. Wentworth-Bennett
Disley ...	3212	3295	2466	1	1	35	10·6	37	11·2				1				1	·30	1	28	Hyde ...	Dr. G. B. Pemberton
Macclesfield ...	19161	19510	79494	11	9	226	11·5	214	10·9										15	66	Macclesfield and Higher Sutton for Small-pox ...	Dr. R. Proudfoot
Malpas ...	4283	4333	21405	4	6	69	15·9	53	12·2							2	2	·46	5	72	Chester ...	Dr. W. E. Burton
Nantwich ...	26626	26400	98466	19	10	376	14·2	342	12·9				4	1		1	6	·22	25	66	Nantwich Joint and Small-pox ...	Dr. R. T. Turner
Northwich ...	26498	27370	54300	12	17	401	14·6	366	13·3				2			1	3	·10	19	47	Northwich Joint ...	Dr. J. Crow
*Runcorn ...	32725	32280	46921	16	23	405	12·4	374	11·5						1	2	3	·09	20	49	Dutton, Warrington, Small-pox ...	Dr. Maneon
Tarvin ...	13279	13050	56871	9	7	168	12·8	148	11·3		1						1	·07	7	41	Chester ...	Dr. W. E. Burton
Tintwistle ...	2020	2002	13619			19	9·4	22	10·9												Mottram Moor ...	Dr. G. J. Awhurn
Wirral ...	28904			4	4	109	14·0	81	10·4		1						1	·12	5	45	Wirral Joint ...	Dr. J. B. Yeoman
	206112	181060	497421	98	108	2492	13·1	2194	11·6		2		7	2	1	7	19	·10	136	54		
Administrative County	675296	681750	623510	319	424	9021	13·2	8253	12·0		10	8	39	15	3	27	102	·14	493	54		

*The Population shown relates to the area after the change in boundary, but the number of births and deaths include (for that portion of the year prior to the change) only those belonging to the old area. Consequently an adjustment has been made in the population for the calculation of births and death rates.

STUDIO HASPO WHITE

STANDARD JAMES



